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THE DECORATIVE ART OF CRETE IN THE BRONZE AGE.

INTRODUCTION.

When in 1878 Professor Furtwängler and Professor Löschke were sorting the fragments of painted vases which had been brought into the Polytechnion in Athens from various "Mycenaean" sites in Greece, they found that, "with the exception of the spiral and of a few motives derived from weaving, all the patterns of vases with lustrous paint, even those in which delight in fanciful combinations of lines had guided the artist's hand, were, in their oldest forms, representations of natural objects."¹ The material available for a study of Mycenaean design has been greatly increased since this statement was made, especially by recent excavations in Crete. There ornamented objects have been brought to light from all the successive stages of a civilization which extended from the beginning to the end of the bronze age. The object of this paper is to ascertain how far the observation of Professor Furtwängler about the pottery known in 1878 holds good for this wider and better understood field of Cretan decorative art. If the character of the designs of Cretan vases be determined, the kind of ornament which appears in other prehistoric sites of the Aegean basin will be intelligible, since the culture of these places will be found to be parallel and akin to one stage or another of Cretan culture.

The English excavators in Crete have divided Cretan pottery of the bronze age into three periods, to which they give the names: 'Early Minoan,' 'Middle Minoan,' and 'Late Minoan.'² Each of these three periods is again divided into three subdivisions. The Cretan bronze-age pottery which has been published is arranged according to these nine divisions in the table opposite page 50. In parallel columns are arranged according to the same classification the most important decorated objects of early Cretan civilization other than pottery and also the bronze-age pottery from other sites in the Aegean basin.

¹ See Furtwängler and Löschke, *Mykenische Vasen*, Introduction, p. iv.

² See A. J. Evans, *Essai de classification des époques de la civilisation Minocenne*, and R. M. Dawkins, *B. S. A. X*, pp. 195 and 196.

References to the publications of this material are not invariably given in the text but are always to be found in the table.¹

CLASSIFICATION OF DESIGNS.

To apprehend better the nature and importance of the beginnings of Cretan ornament, a statement of the various kinds of design found in Cretan decorative art throughout the course of the bronze age may well be made at the outset. These designs may be divided into two main classes:

1. IMITATIVE DESIGNS in which there is representation of things seen or thought. These include:

- (a) *pure naturalistic designs* which represent in a realistic way natural objects or other naturalistic designs not yet degenerated by copying, e. g., Fig. 1;
- (b) *conventional naturalistic designs* in which the artist accepts conventional methods of representing natural objects, e. g., Fig. 2;
- (c) *conventionalized naturalistic designs* in which, because of long periods of mechanical copying, representations of natural objects are rendered in a stereotyped fashion, e. g., Fig. 3;
- (d) *sacral designs* which represent sacred objects.

2. NON-IMITATIVE DESIGNS or compositions of lines for the sake of balance, rhythm, and harmony² in which the element of representation is not found. These include:

- (a) *simple, stock patterns*, like spirals, crescents, dots, etc.

¹The titles of periodicals quoted in this paper are abbreviated as follows:

A. J. A. = American Journal of Archaeology.
Arch. Anz. = Archäologischer Anzeiger, Beiblatt zum Jahrbuch des archäologischen Instituts.
Ant. Denk. = Antike Denkmäler.
Athen. Mitt. = Mitteilungen des kaiserlichen deutschen archäologischen Instituts. Athenische Abteilung.
B. C. H. = Bulletin de correspondance hellénique.
B. S. A. = Annual of the British School at Athens.
Ἑφ. Ἀρχ. = Ἑφημερίς Ἀρχαιολογική.
J. H. S. = Journal of Hellenic Studies.
J. R. I. B. A. = Journal of the Royal Institute of British Architects.
Mon. Ant. = Monumenti Antichi.
Röm. Mitt. = Mitteilungen des kaiserlichen deutschen archäologischen Instituts. Römische Abteilung.
Transactions = Transactions of the Department of Archaeology of the University of Pennsylvania.

²Compare D. W. Ross in *Proceedings of the American Academy of Arts and Sciences*, 1901, XXXVI, No. 21, p. 357 ff.

- (b) *complicated designs* made up it may be of simple, stock patterns but constituting, by virtue of the way in which these motives are combined, original compositions, e. g., Fig. 4.



Fig. 1, from *J. H. S.* 1903, XXIII, p. 189, Fig. 8, 10.



Fig. 2, from *J. H. S.* 1903, XXIII, Pl. V, 2.

The distinction between 1a and 1b or 1c is a distinction of degree for in Cretan decorative art close studies of nature are rare. Flowers are always more or less conventionally treated. Yet between the designs of Fig. 1 and Fig. 2



Fig. 3, from *J. H. S.* 1903, XXIII, p. 197, Fig. 13.



Fig. 4, from *B. S. A.* 1902-3, IX, p. 20, Fig. 8.

there is too great a difference to admit of their being classed together. The distinction between 1b and 1c is this, that conventionalized naturalistic designs were once rendered in a more lifelike form; conventional naturalistic designs were not.

EARLY MINOAN I.

From the first of the nine periods of Cretan bronze age pottery very little ware has been found and none has as yet been fully published. It is reported,¹ however, to be similar to the neolithic ware directly above which it lies. It is handmade and polished. Decoration, when it occurs, is obtained by

¹ See A. J. Evans, *op. cit.* p. 5 and *B. S. A.* 1903-4, X, p. 22.

incision, puncturation and in some cases, it seems, by paint. It is of the simplest linear-geometric character.

EARLY MINOAN II.

In the second division of the early period, the same sort of primitive technique prevailed. The practice of incision continued, and there was also in use, especially at Vasiliki,¹ in the eastern end of the island, a method of decoration which consisted in firing the vase in such a way as to produce a brilliantly mottled red and black surface. The perfecting of this and of other processes of surface treatment inherited from neolithic epochs were throughout this period the potter's chief concern. A lustrous surface on a vase is obviously advantageous for practical reasons, and for aesthetic reasons also, it was probably preferred at first to painted decoration. For a polished lustrous surface affords of itself a kind of aesthetic pleasure and when, as at Vasiliki, there is the added pleasure afforded by the contrast of red and black patches of color, it is easy to see how such decoration would compete successfully with painted patterns which appeal to the instinct for rhythm and harmony of line. A typical ornament of this period is given in Fig. 5. The



Fig. 5, from *Transactions* I, Part III, Pl. XXV, G. V a.

boldness with which this pattern is applied to the vase shows a marked advance in decorative sense, though the design itself is shown by Mr. Evans² to have been derived directly from the incised decoration of earlier periods.

EARLY MINOAN III.

In the third division of the early period a larger proportion of vases is painted.³ The prevailing color of the paint is white on a slightly lustrous

¹ See table, opp. p. 50.

² *B. S. A.* 1902-3, IX, p. 98.

³ The presence of incised vases in strata of this period is attributed by Mr. Evans (*B. S. A.* 1903-4, Vol. X, p. 23) to Cycladic influence. Simple incised geometric ornaments continued on stone vases throughout later periods. See, e. g., *Mon. Ant.* 1905, XIV, Part 2, cols. 473-474, Figs. 79 and 81, from the earlier palace (Middle Minoan II) of Phaistos.

brown or black ground-paint though occasionally the design-paint is brown and is applied to the clay as ground. The clay is well sifted and baked in the oven. The use of the wheel probably begins in this period, and simultaneously the fashioning of vases out of very thin clay.

The commonest principle of decoration¹ is a horizontal band of ornament about the upper part of the vase. Occasionally several zones of ornament appear. Within these zones the fundamental motive is the zigzag,

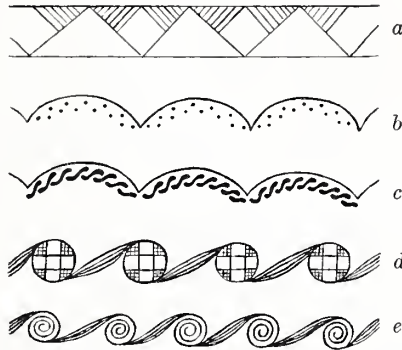


Fig. 6, from designs in *Transactions* I, Part III, Pls. XXVI-XXXIII.

an inheritance doubtless from earlier incised decoration. The simplest design in which it appears is shown in Fig. 6 *a*. But the other designs in this figure have an up and down character which suggests near relation to a zigzag. The arcs in Fig. 6 *b* and *c* are direct translations of the zigzag into curvilinear design while in *d* and *e*, if the circular device be regarded as the downward line in a zigzag, we get again a scheme which is akin to a simple zigzag line. This period, then, is marked by the transition from rectilinear to curvilinear ornament. The cause of the change was doubtless the established use of the brush, which made curvilinear design easy.² The quirks which enforce the arcs in Fig. 6 *c* probably owe their existence to the use of the brush by a turn of which they could easily be made. They enjoyed a long life during later periods of vase painting.³

¹ See E. H. Hall in *Transactions*, Vol. I, Part III, p. 198 ff.

² Compare Duncan Mackenzie in *Phylakopi*, p. 250.

³ See *Argive Heraeum* II, Pl. LV, 22, for an instance of its use in the Late Minoan III period; *Athen. Mitt.* 1903, XXVIII, Pl. XVII, 4, opp. p. 144, for the geometric period; *Argive Heraeum* II, Pl. LIX, 18 a and b for "Proto-Corinthian" ware; *Vases antiques du Louvre* I, Pl. 43, E 612 for Corinthian ware; *ibid.* II, Pl. 56, E 784 for Italian-Ionian vases. It is not necessary to suppose that this pattern was adopted in every case from the preceding period. Such simple ornaments may have been arrived at independently many times. A vase of the Late Minoan I period covered with this pattern was found in a tholos tomb at Hagia Triada (*Mon. Ant.* 1905, XIV, Part 2, cols. 685-687 and Fig. 4). Sig. Paribeni, after

An important pattern which appears as a frequent¹ motive in Early Minoan III vases is the spiral. In Egypt spirals were painted on vases in pre-dynastic periods, but in Crete up to the time of the Vth and VIth dynasties paint was not widely used as a method of decoration, and consequently spirali-form ornament, which is not easily incised, was not employed.² For seal-



Fig. 7, from *Transactions* I, Part III, Pls. XXVII, XXVIII, XXX and XXXII.

stones alone, the signs of individual possession and authority, did the toil of cutting out a curved pattern seem justified.

pointing out the fact that such quirks were made by a single stroke of the brush, suggests that the pattern as it appears on the Hagia Triada vase may be a schematized form of ducks like those which occur on decorated objects of the iron age in Central Europe. This suggestion seems entirely improbable in view of its appearance in so early a stage of Cretan art as the Early Minoan III period. Equally improbable is the idea that this pattern is a degenerate cable pattern (Hogarth and Welch, *J. H. S.* 1901, XXI, p. 82 and *Transactions*, Vol. I, Part III, p. 201).

¹ Mr. Evans *op. cit.* p. 6, reports spirali-form designs in Early Minoan II vases.

² In Syra, where incision continued to be practised during the Early Minoan III period, the difficulty of cutting on the round was obviated by stamping the design into the clay. But this method seems not to have been known in Crete.

Among these early experiments in curved lines appear several patterns (Fig. 7), which have a slight resemblance to natural objects. Fig. 7 *a, b, c, d* look like leaves. They are the counterparts of patterns which appear again in the second division of the middle period.¹ In Fig. 7 *c* appears a pattern which, were it from a later period, would be called a conventionalized flower or leaf.² The artist's task was here to decorate a lozenge-shaped piece of clay³ with an ornament adapted to the shape of the field. He drew two chevrons in the corners and then bent their ends around to fill the central space. Again,



Fig. 8, from *Transactions* I, Part III, Pls. XXVIII, XXX and XXXII.

the elongated dots of Fig. 7 *b* give the effect of leaves springing alternately from a stalk, merely because they are tipped on end.

Are these designs naturalistic? It seems improbable that the decorators of these vases ever seriously attempted to represent natural objects. Rather in experimenting with straight and curved lines in their search for balanced and harmonious decoration they happened upon designs which looked like

¹ Compare, e. g., the upper and lower bands of ornaments on the cup in *J. H. S.* 1903 XXIII, Pl. VI, 4.

² See e. g. R. M. Dawkins, *J. H. S.* 1903, XXIII, p. 254. Similarly Hogarth and Welch call patterns like those in Fig. 7 degraded leaves, *J. H. S.* 1901, XXI, p. 82.

³ This sherd is broken on the two short sides only. It may have been a part of an open-work dish like the much later lid in *B. S. A.* 1903-1904, X, p. 224, Fig. 7.

natural objects. They saw the resemblance, and it pleased them. And here we see the prophecy of imitative designs, for as soon as the artist feels the distinction between designs which represent something and those which do not, and takes pleasure in this recognition, the history of imitative design has begun. The geometric animals in Fig. 8 are further illustrations of the way in which the artist put together types of natural forms out of geometric elements.¹ The bodies of these animals, apart from their heads and tails, are equivalent to the hatched triangles and circles of purely geometric designs. On the whole, the designs of this period furnish excellent illustrations of a principle which is confirmed in the succeeding Middle Minoan I period, namely, that *naturalistic designs do not necessarily begin as a realistic reproduction of a particular natural object but as an arrangement of lines which suggest rather than picture natural forms*. Or, to put this principle in terms of the classification of Cretan pottery made above, the motive of imitation which produces designs which represent something does not operate so strongly in this early period as the instinctive desire for rhythm, harmony and balance, which leads to experiments in composition of lines and, in the end, to pure design. Accordingly, since the designs of this early period show to so slight a degree the elements of imitation, they should be assigned to the non-imitative class, and again, since they are simple and repeated on different vases, they should be assigned to the simple stock group within that class.

MIDDLE MINOAN I.

In deposits of the Early Minoan III period have been found seal stones with designs analogous to those on Egyptian "button seals" of the VI dynasty,² which ended in 2475 B. C.³ The second division of the middle period will be seen to be parallel to the XII dynasty in Egypt, which dates from 2000 to 1788 B. C.⁴ Between these two dates was the Middle Minoan I period. In passing to this period from the last division of the early period, we pass over no gap, but merely advance a step further in the continuous development of Cretan ceramics. The technique of the pottery of the two periods is nearly the same. The shapes of the Middle Minoan I vases in *B. S. A.* 1902-1903, IX, p. 305, Fig. 5 are scarcely different from those to which the fragments which we have just examined are to be assigned.⁵ The chief change in technique is

¹ Compare Edgar in *Excavations at Phylakopi in Melos*, p. 100 and Pernier, *Mon. Ant.* 1902, XII, col. 114.

² See A. J. Evans, *op. cit.* p. 7.

³ According to the later chronology which, however, leaves a margin of error of a hundred years either way from this date. See Breasted, *History of Egypt*, p. 16.

⁴ With a margin of error of only four years, *ibid.* p. 22.

⁵ See *Transactions* III, p. 194 ff.

the habitual use of an accessory color (red, crimson, or orange) to enhance the white design.¹

But changes in design are more important for our purpose than changes in technique. In general, the decoration of these vases is reminiscent of the preceding period. The tailed spiral in Fig. 9 and the running spiral of Fig. 10 suggest the patterns of Fig. 6. The festoons, the quirks, and groups of lines in Fig. 11 are all motives which have appeared before (Fig. 6), while the older linear method of decoration continues unchanged on beaked jugs (*B. S. A.* 1902-3, IX, p. 305, Fig. 5). And yet, in spite of these similarities there is a marked difference in the decoration of the two periods. In the matter of syntax of design the patterns in Figs. 9-13² show an advance beyond Early Minoan III design. The patterns of the earlier period are applied in horizontal zones, each of which consists for the most part of a single decorative motive repeated a sufficient number of times to encircle the vase. But designs of this period are applied freely and with far fewer repetitions to the decorated field.



Fig. 9, from *B. S. A.* 1902-3, IX, p. 305, Fig. 4.



Fig. 10, from *B. S. A.* 1902-3, IX, p. 305, Fig. 5.

In Figs. 11 and 13 all traces of horizontal zones of ornament have disappeared. In those vases where decoration is still applied in zones (Fig. 12), the designs are more elaborate in character, a fact to be explained in part by the possibility of contrast and variety afforded by the use of a second color. This increased elaboration of design is the most distinctive difference in kind between the ornament of this and that of the preceding period. The decoration of Fig. 12 is a careful attempt to fill a band of ornament with graceful and harmonious lines. Though the curves springing from the oblique lines in this design bear some resemblance to leaves, the motive of imitation hardly enters in here. The shape of the field to be decorated and the artistic arrangement of lines within that field were quite evidently uppermost in the mind of the decorator. This design, therefore, should be assigned to the non-imitative class and because of its complex character to the second division of that class.

¹Mr. Evans noted the beginnings of polychrome painting in the preceding Early Minoan III period, *op. cit.* p. 6.

²This vase because of its sturdy shape I have assigned to this Middle Minoan I class, though its decoration seems somewhat later.

Lastly,¹ there is to be noted in the designs of this period an increase in naturalism. The tendrils in Fig. 12 and the leaflike design in Fig. 13 resemble nature more closely than did any design in the Early Minoan III



Fig. 12, from *B. S. A.* 1902-3, IX, p. 303, Fig. 2.



Fig. 11, from *B. S. A.* 1902-3, IX, p. 305, Fig. 5.



Fig. 13, from *Transactions I*, Part III, Pl. XXV, A, Ph. II a.

period, although now, as then, naturalistic patterns are formed from rectilinear and curvilinear motives.

MIDDLE MINOAN II.

The pottery of the succeeding division of the middle period is well known. It has long been termed "Kamares ware" after the local name of the cave on Mt. Ida, where it was first found.² It has attracted the attention of scholars because of the quantity in which it has appeared (see table opp. p. 50) and because of the delicacy of its shapes, the richness of its color, and the harmony of its designs. In contrast with the thick clay and sturdy shapes of the preceding period we note here a clay as light and thin as that of a modern Haviland tea-cup. The cups of this "eggshell ware" show a variety of graceful shapes, which attests the high degree of technical skill to which the potter has attained (see, e. g., *J. H. S.*, 1903, XXIII, Pl. V). The ornamentation consists in some cases of relief work but more commonly of polychrome painted patterns applied to a dark body paint. The chief colors are white, orange, crimson, red, and yellow. Such perfection of technique implies a civilization far removed from

¹ A more illuminating example of complex non-imitative Middle Minoan I design is shown in Pl. I of *B. S. A.* 1904-1905, XI, which has been issued since this paper went to press.

² See *Parnassos*, 1886, X, p. 339 ff. and *Röm. Mitt.* IX, p. 100, Mr. Dawkins has pointed out that this name cannot properly be used of both technique and period. See *B. S. A.* 1903-4, X, p. 192.



Fig. 14, from *J. H. S.* 1901, XXI, Pl. VII; *ibid.* 1903, XXIII, Pls. VI and VII; *B. S. A.* 1902-3, IX, p. 305, Fig. 4; and *Mon. Ant.* 1895, VI, Pl. XI.

primitive life. Similarly the designs of this ware imply an æsthetic taste far removed from primitive art. Occasionally, still, the ornament on these vases is applied in zones (Fig. 14 *j*), though more commonly in an undivided design.

The classes into which the ornament of this period falls are three: the two kinds of non-imitative designs—simple and complicated—which were found in the preceding period and the conventional naturalistic class, the tendencies toward which were seen in both the early Minoan III and the Middle Minoan I periods. Examples of this kind of design are shown in Fig. 14. Fig. 14 *h* is an excellent example of the way in which flowerlike designs were made up of familiar geometric motives. The stem is a zigzag line, while the petals are represented by curls and the center by a dot. In later Mycenaean design this flower would be called degenerate or stylized. Here it seems to be a new invention. In Fig. 14 *i* another circular device of a dot surrounded by stamenlike rays is shown. In Fig. 14 *j* the decorative border design of the uppermost and lowest zones seems to be a stiff representation of buds or fruit and stems, though this design is quite possibly a descendant of the running designs which characterize the Early Minoan III period. Among the conventional representations of leaves the designs in Fig. 14, *a-e*, should be noted.

This group of designs confirms the principle stated on page 12 that naturalistic designs do not begin as realistic reproductions of natural objects, but compared with the designs of the preceding period, they show decided progress toward the achievement of a naturalistic style. It may be that the beginnings of this style should be assigned to this period. The decoration of the jar in Pl. I, Fig. 2, is certainly very similar to the design of Fig. 1.¹ However that may be, the conventional naturalistic motives of this period must be regarded as representing a stage of growth intermediate between the first steps toward naturalism in the Early Minoan III period and the fully developed naturalistic style of the Middle Minoan III period.

Non-imitative designs of this period may be divided as before into two classes according to their complexity. Among the simple stock designs of this period are the following: quirks and dots, Figs. 15, 17 and 19; festoons, Fig. 16; spirals; the linear geometric ornaments of Fig. 17; the crescents in *B. S. A.* 1903-1904, X, p. 15, Fig. 4 *a*, *ibid.* p. 16, Fig. 6, *a* and *c* and *Mon. Ant.* 1905, XIV, Part 2, Pl. XLIII, 2; concentric circles, Fig. 18; certain designs appropriate to weaving like those in Figs. 20 and 21; the waved lines and comb pattern in *B. S. A.* 1903-4, X, p. 16, Fig. 5, 1; various forms of

¹ The lily in *J. H. S.* 1901, XXI, Pl. VI b, seems to be transitional between the Middle Minoan II and Middle Minoan III style. Its orange paint connects it with Middle Minoan II vases while the realistic rendering of the flower is after the Middle Minoan III style.

crosses and rosettes, Fig. 19 and *Mon. Ant.* 1895, VI, Pl. XI, 27; *B. S. A.* 1903-1904, X, p. 17, Fig. 6, m and b; *Mon. Ant.* 1905, XIV, Part 2, Pl. XLII, 1; *J. H. S.* 1903, XXIII, Pl. VI, 1, and the hooked ornaments of Fig. 22. Of many



Fig. 15, from *Transactions* I, Part III, Pl. XXV.



Fig. 16, from *B. S. A.* 1903-4, XI, p. 15, Fig. 4.

of these patterns nothing more need be said than that they occur. In case of others further comment is in place.



Fig. 17, from *Mon. Ant.* 1895, VI, Pl. IX.



Fig. 18, from *Mon. Ant.* 1895, VI, Pl. IX.

The "comb pattern" in *B. S. A.* 1903-4, X, p. 16, Fig. 5, 1, occurs on Cretan neolithic ware, *J. H. S.* 1903, XXIII, Pl. IV, 24 and 29.



Fig. 19, from *Mon. Ant.* 1895, VI, Pl. IX.



Fig. 20, from *Mon. Ant.* 1895, VI, Pl. XI.

The crescents in *B. S. A.* 1903-4, X, p. 15, which reappear in frescoes of this period, are a motive which is characteristic of Samian ware. Boehlau¹ expressed his belief that this motive was known in Mycenaean art and Mr.

¹ *Aus Ionischen und Italischen Nekropolen*, p. 65.

Mackenzie and Mr. Edgar¹ recognized that this belief was confirmed by the crescents found on vases from Crete² and Melos. The crescent has also been found in the late Minoan I period.

Again the cruciform ornaments² cited are to be connected with both later

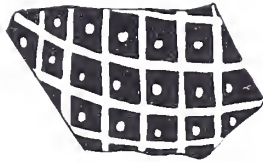


Fig. 21, from *Mon. Ant.* 1895, VI, Pl. X.



Fig. 22, from *Mon. Ant.* XIV, Part II, Pl. XLII, 3.

Mycenaean and Samian design. On Samian vases the cross is commonly the central ornament of a latticed pattern similar to that in Fig. 21, a combination which, though not actually found in Middle Minoan II ware, is yet entirely in keeping with its character. Identically the same latticed pattern filled with



Fig. 23, from *J. H. S.* 1901, XXI, Pl. VI.



Fig. 24, from *B. S. A.* 1903-4, X, p. 16, Fig. 5.

crosses appears in Attic red-figured vases, especially as an ornament on cloth³ where Ionic motives might well be expected.

The distinction between the simple and complicated classes of non-imitative designs is sometimes slight and cannot always be made with certainty. Simple patterns such as spirals and quirks are used so much that they belong to the artist's stock repertoire of patterns, while the complicated designs are rather the original composition of the artist. A pattern so original as that in Fig. 4 which belongs to this period would certainly not be often copied.

¹ *J. H. S.* 1903, XXIII, p. 179 note and *Phylakopi*, p. 122.

² Compare also the cruciform patterns on "Kamare" fragments from *Phylakopi*, *Phylakopi*, p. 149, Figs. 127-129, and those in *J. H. S.* 1901, XXI, p. 94, Fig. 28.

³ Furtwängler-Reichhold, *Griechische Vasenmalerei*, Pl. XX. Compare the embroidered red cloth represented in the Hagia Triada fresco in *Mon. Ant.* 1903, XIII, Part 1, Pl. 10.

Other designs which look original are shown in Figs. 23 and 24. But in some cases it is impossible to say whether a pattern was common or not. Again the method of combining simple stock motives may be so simple that it is difficult to say to which class the resulting design should be assigned. A row of dots would be counted as a simple design. But the decoration made up of dots and lines in *J. H. S.* 1901, XXI, Pl. VII, 9, might well be regarded as a complex design.

Some of the finest designs of this period combine conventional naturalistic with non-imitative ornament, as for example Fig. 25. With the exception of



Fig. 25, from *B. S. A.* 1902-3, IX, p. 120, Fig. 75.

the groups of three leaves which spring in pairs from the four corners of the design, this ornament is quite similar to that in Fig. 4 which was taken as typical of the complicated designs of the non-imitative class. But from the addition of these leaves a mixed design results. Similar groups of leaves spring from a circular motive in Fig. 14 *e*. They suggest such combinations of leaves and spirals as that in Furtwängler and Löschke, *Myk. Thon.* Pl. VI, 31;¹ Boehlau, *op. cit.* p. 54, Fig. 22; p. 55, Fig. 25 and p. 81, Fig. 36; *Naukratis* I, Pl. VI, 3, II, Pl. VII, 5 and *Tanis* II, Pl. XXVIII, 4. Here again Middle Minoan vases seem to have furnished prototypes for the decoration both of Mycenaean (Late Minoan) vases and of the vases of Samos, Naukratis, and Daphnae. The artistic merit of the decoration of this period varies greatly. Some of the mixed designs like Fig. 25 and *J. H. S.* 1903, XXIII, Pl. V, 1 and Pl. VI, 3, rival in richness and harmony the designs of any later period of Cretan bronze age art. In other cases (Figs. 18, 26 and 27) the designs seem

¹ Compare the statements of Hogarth and Welch, *J. H. S.* 1901, XXI, p. 97, that "Kamarcos" patterns do not survive in the Mycenaean style. More analogies between the designs of these two periods are noted later.

to have been less successfully constructed and a kind of distorted, fantastic ornament results.

If, in our attempt to understand the designs of this period, we turn for light to other decorated objects than vases, we are disappointed to find the material at hand scanty. Middle Minoan frescoes have been found in small quantities both at Knossos and Phaistos,¹ but they have added little to our knowledge of the decorative art of this period. Another art known to have flourished in this period is metalwork, some of the characteristics of which are reflected in vases. It is well known that the thin clay of Middle Minoan II cups, their straplike handles and their knobs made to look like metal rivets were affected by the potter with the purpose of making his ware resemble the more costly products of the goldsmith's or silversmith's art.² Mr. Evans thinks that in the matter of design also, the potter was indebted to the worker



Fig. 26, from *Mon. Ant.* 1895, VI, Pl. IX, 1.



Fig. 27, from *Mon. Ant.* 1895, VI, Pl. IX.

in metal. The designs in *B. S. A.* 1902-3, IX, Pl. II, 1 and in Fig. 4 he regards as derived from metalwork.³ But this is a matter of probable surmise, not certainty, since so few examples of the metal decorations of this period have been preserved to us.

Of another art, however, which flourished in this period, traces have been found, and these traces we owe, as we owe the relics of the ceramic art, to the indestructible character of clay. Among the Middle Minoan II vases found beneath the "olive press rooms" at Knossos were found clay seal impressions. Two of these are reproduced in *B. S. A.* 1902-3, IX, pp. 20 and 21, Figs. 9 and 10. If we examine the designs of these two seal impressions, we observe elements not found in vases of this period. First, in Fig. 9, the gem cutter's

¹ See *B. S. A.* 1901-1902, VIII, p. 24, *J. R. I. B. A.* 1902-3, p. 109, Figs. 1 and 2, and *Mon. Ant.* 1905, XIV, Part 2, col. 403.

² Compare Hogarth, *B. S. A.* 1899-1900, VI, pp. 101 and 102; *ibid.* 1902-1903, IX, p. 314, and *Mon. Ant.* 1903, XII, col. 113.

³ See *B. S. A.* 1902-3, IX, p. 20.

attempt to suggest by a wild goat and plant a scene from the outdoor world attracts attention. Nothing so naturalistic or so original has appeared on vases. Equally interesting is the design of the other seal. For here amid spirals, scrolls, quatrefoil rosettes and other decorative motives familiar to us from vases of this period appears a conventional flower which resembles the papyrus blossoms known in contemporary Egyptian art,¹ and in later stages of Cretan art.² Again, among the clay sealings found in the remains of a Middle Minoan II building to the southeast of the Knossos palace was one (*B. S. A.* 1901-2, VIII, p. 106, Fig. 63) which showed a lily design derived from a XIIth dynasty scarab and two others (*loc. cit.* p. 107, Figs. 64 and 65) which bore the design of the sacred double axe. Both of these motives appear in the following period on vases. Two conclusions may be drawn: first, that the gem cutter's art was subject to Egyptian influence in this period,³ and second, that the seals of this period anticipate the motives of later vases. The designs of seal stones seem in some cases to have furnished inspiration to the vase painters of this period. The decoration of the jar in Pl. I, Fig. 1, is obviously adapted from the gem cutter's art as Sig. Pernier points out (*Mon. Ant.* 1905, XIV, Part 2, col. 459). The circle which confines the main part of the decoration is equivalent to the field of a seal while the spiraliform pattern within is such as is commonly used for decorating seals.

MIDDLE MINOAN III.

We come now to the Middle Minoan III period, the era of the beginning of the new palace at Knossos. At the first glance over the material available for a study of the design of this period we observe that, contrary to what has before been the case, painted vases are less numerous than other decorated objects. Our knowledge of the character and tendencies of the art of this period would be far less complete than it is, were it not for the lucky circumstance which preserved the collection of small faience objects in the "Temple Repositories" of the Knossos palace. These well-known repositories included the appurtenances of a shrine of the snake goddess, conspicuous among which were the figures of the goddess herself and of her votaries. There were also found a number of votive robes and a series of small models of shells, fruit and flowers

¹ Compare, e. g., the papyrus blossoms from a Beni Hasan wall painting in Borchardt, *Die ägyptische Pflanzensäule*, p. 27, Fig. 46, and the later Ptolemaic treatment of the flower in *ibid.* p. 42, Fig. 68.

² See Pl. II.

³ For further evidence of the influence of Egyptian XII the dynasty scarabs on seals of this period see A. J. Evans, *Cretan Pictographs*, p. 58, Fig. 49, and Pernier in *Mon. Ant.* 1905, XIV, Part 2, col. 446.

which had served as offerings or as ornaments of the shrine.¹ Since these faience objects are in so many cases painted with patterns similar to those found on vases and since their decoration involves no principle foreign to vase-painting, it will be well to consider their designs along with those of the painted vases of the period, as soon as we shall have reviewed the general characteristics of Middle Minoan III ware.

Vases of this period may frequently be recognized by their dull purple slip and powdery white paint.² They differ, therefore, from the ware of the preceding period in the loss of the fine black glaze ground and the decline of polychrome decoration. From the late Minoan I vases, on the other hand, they are distinguished by the use of white as the usual color for the main design instead of for mere accessories of the decoration.

The designs are applied to the field to be decorated with absolute freedom (see, e. g., Fig. 1). This free treatment of the design goes hand in hand with the achievement of a purely naturalistic style.

If we follow the order of the classification made on page 6, we shall begin our study of Middle Minoan III ornament with designs of the highly naturalistic style of which Fig. 1 furnishes a good example. It marks the acme of naturalism in Cretan vase painting. Equally free and lifelike are the grass pattern in *B. S. A.* 1902-3, IX, p. 50, Fig. 26 d, and the crocuses in *ibid.* 1903-4,



Fig. 28, from *B. S. A.* 1902-3, IX, p. 82, Fig. 58.

X, p. 17, Fig. 6 b, and in Fig. 28, where they serve as decoration of the votive garments of the snake goddess. Most of the ornaments of the shrine bear witness to the same love of nature. Among them are models in the round of fruit, flowers, flying fish, and shells. Shells seem to have been a favorite decoration. Hundreds of real shells of the varieties still known in the island were recovered from this shrine alone. The shell appears also on seal stones (*B. S. A.* 1902-3, IX, p. 56, Fig. 34) and as an ornament on a faience bowl (*ibid.* p. 73, Fig. 51).

Now it is noteworthy that many of the faience objects from this shrine are to be closely connected with Egyptian faience work. Mr. Evans (*B. S. A.* 1902-3, IX, p. 63) has pointed out the following affinities: (1) the glaze on these ornaments is similar to that on Egyptian porcelain; (2) the faience

¹ See *B. S. A.* 1902-1903, IX, pp. 38-94.

² See A. J. Evans, *B. S. A.* 1903-4, X, p. 8.

beads found in the temple repositories are like the Egyptian beads of the XIIth and XIIIth dynasties in Egypt, except for a slightly smaller perforation; (3) the signs found on the pieces for inlay correspond to those used by Egyptian inlayers,¹ and (4) Egyptian designs are copied in Cretan art. This evidence proves the existence of Egyptian influence in Crete during the Middle Minoan III period.

Of the two types of flowers, the crocus and the lily, which are most characteristic of the designs of this period, one, the lily, is known in XIIth dynasty Egyptian art,² while the other, the crocus, is not unlike some representations of the Egyptian lotus.³ But in Egyptian art these flowers belong commonly to large wall paintings, the purpose of which was to attest the deeds of rulers. The desire for decorative effect was therefore subservient to the desire for historical records. The flowers which are introduced into such paintings represent commonly the background for fowling scenes or the like. Though drawn with the greatest fidelity to nature, they are crowded in stiff rows or groups into their place in the larger scene. Now when Cretan artists came to borrow types of flowers from Egypt they applied them to their vases with the greatest freedom and with a sense for decorative effect, trained by long practice in non-imitative and conventional naturalistic designs. Cretan flower types are for this reason more difficult to assign to a definite botanical species than Egyptian types, though they give a general effect which is more realistic. A case in point is Fig. 29 which, as Mr. Evans has pointed out,⁴ is an adaptation of the lotus clumps of Egyptian art.⁵ Here the method of arrang-



Fig. 29, from *B. S. A.* 1902-3, IX, p. 82, Fig. 58.

ing the flowers is the same as in Egyptian art, yet every trace of Egyptian stiffness is gone. Generally, however, methods of combining and arranging flowers were not borrowed from Egypt.⁶ On another votive robe from the snake goddess shrine (*B. S. A.* 1902-1903, IX, p. 82, Fig. 58) detached blossoms

¹ But these Egyptian inlayers lived in the time of either the early dynasties or of the new empire.

² See Borchardt, *Die ägyptische Pflanzensäule*, p. 18, Fig. 30, and Petrie, *Hawara, Biahmu and Arsinoe*, Pl. 27, 5 and 6.

³ See Beni Hasan I, Pl. XII, lower register.

⁴ *B. S. A.* 1902-3, IX, p. 83.

⁵ See e. g. Petrie, *Decorative Art*, p. 56, Fig. 128.

⁶ See below, p. 28.

are painted in rows, while on the cup in *B. S. A.* 1903-1904, X, p. 17, Fig. 6 b, they are scattered loosely.¹

Conventional naturalistic designs are not numerous in this period. Fig. 30 shows one instance of this kind—a fern pattern—which is obviously derived



Fig. 30, from *J. H. S.* 1903, XXIII, p. 178, Fig. 5.

from such patterns as those in Fig. 14 *b* and *c*. Other instances of conventional representations of natural objects occur among the faience ornaments of the temple repositories. One is the representation of rocks or of the

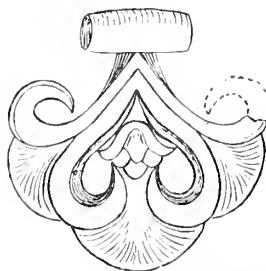



Fig. 31, from *B. S. A.* 1902-3, IX, p. 67, Fig. 44.

natural surface of the ground which appears among the models of marine life in *B. S. A.* 1902-1903, IX, p. 67, Fig. 46. With it should be associated a pattern to which the name rock-work pattern has been given. It is used in marine scenes² and it frequently defines the field of ornament in later designs

¹*Cf.* the restoration of the lily fresco in *Phylakopi*, p. 76, Fig. 64. The plaster fragment from Thera in Perrot and Chipiez, *Histoire de l'art*, VI, p. 537, Fig. 211, and the inlaid dagger from Mycenae in *ibid.* Pl. XIX, opp. p. 784.

²See R. C. Bosanquet, *Phylakopi*, p. 70 and A. J. Evans, *The Prehistoric Tombs of Knossos*, p. 156.

on vases.¹ Another is the scale pattern used in the faience relief of a wild goat (*B. S. A.* 1902-1903, IX, Pl. III) for the same purpose of representing the surface of the ground. It recurs in later periods (see below, p. 33), but with no imitative purpose. The third conventional naturalistic ornament from the shrine is the faience pendant in Fig. 31. The two flowers at the sides of this ornament with curving petals and solid central lobe resemble the conventional Egyptian type of lily. But here there is no more naturalistic treatment of the motive than is found in Egypt. The manner in which a third lobe is added in the center of the ornament to complete the symmetry of the design is worth

noticing. It makes the central part of the pendant to consist of 

which we shall find as a separate ornament on both vases and frescoes of later periods.²

Lastly, among the imitative designs of this period should be mentioned two sacral patterns, the shield and the double axe. The former, which ornaments the rim of a faience bowl of this period (*B. S. A.* 1902-1903, IX, p. 72, Fig. 49) is a decorative motive which appears frequently in later stages of Cretan art.³

Turning now to the non-imitative designs of this period we note first of all the quirk (*B. S. A.* 1902-1903, IX, p. 75, Fig. 54 a and b), the persistent appearance of which in all these early periods of Cretan ornament is a strong argument for continuous native development. On the upper and lower bands of ornament from the jug in Fig. 32—which may, however, be a Melian



Fig. 32, from *B. S. A.* 1902-3, IX, p. 50, Fig. 26.

importation—and in *J. H. S.* 1903, XXIII, p. 189, Fig. 8, Nos. 1, 2 and 3, appear spirals and a pattern called by Mr. Mackenzie (*ibid.* pp. 160 and 181) the ripple motive and derived by him from the rippled surface of neolithic ware. This derivation seems less probable now that our knowledge of Early and Middle Minoan pottery is more extensive, for the ripple motive does not appear to have been in use during these early periods.

Among the more complex patterns of the non-imitative class are two

¹ See Fig. 39.

² See *J. R. I. B. A.* 1902-3, p. 130, Fig. 81, *Mykenische Vasen*, Pl. I, 1, and below, p. 39.

³ See Hastings, *A. J. A.* 1905, IX, p. 285.

designs from the votive robes of the snake goddess (Fig. 33 and *B. S. A.* 1902-1903, p. 77, Fig. 56b). The latter linear design is similar to a latticed pattern on a fresco from Knossos (*J. R. I. B. A.* 1902-1903, p. 129, No. 76) and to the latticed decoration of the preceding period. The pattern on the votive belt in Fig. 33 is also reminiscent of Middle Minoan II design.

The class of mixed designs is represented in this period by the pattern in Fig. 34. Except for the added grasses this pattern too is typical of the design of the preceding period (see Fig. 4 and *Mon. Ant.* 1895, VI, Pl. X, 27).¹



Fig. 33, from *B. S. A.* 1902-3, IX, p. 82, Fig. 58.



Fig. 34, from *B. S. A.* 1903-4, X, p. 9, Fig. 2.

LATE MINOAN I.

Large quantities of pottery of the succeeding Late Minoan I period have been brought into the museum at Herakleion during the last six years, but only a small number of these vases has been published (see table opp. p. 50). The publication of the excavations at Gournia, which have yielded more of this pottery than any other site, is shortly to appear.

In technique this ware differs widely from the preceding. Some vases are still painted in the fashion prevalent at the end of the Middle Minoan III period, that is, with white designs on a dark paint ground, but more numerous are vases painted in a fully developed Mycenaean technique of dark glaze paint design on the light ground of the clay. Characteristic is a combination of the two techniques of light-on-dark and dark-on-light designs upon the same vase (*J. H. S.* 1902, XXII, Pl. XII, 2).² Characteristic also of this period is the use of superadded white. The eyes of spirals are commonly ornamented with a circle of white dots, and bands of dark paint are often used as the background for rows of dots or leaf-like splashes of white (*J. H. S.* 1903, XXIII, p. 106, Fig. 7, and forthcoming Gournia publication). This practice must be regarded as the continuation of Middle Minoan II technique.

¹ Mr. Evans notes that this design is analogous to Egyptian Middle Empire decoration.

² Combinations of the two techniques are known as early as the Middle Minoan II period. See *J. H. S.* 1903, XXIII, p. 177, and Pl. VI, 4.

Pure naturalistic designs are numerous in this period. Among those which have appeared in earlier epochs are the grass patterns of Fig. 35,¹ which may be compared with Pl. II, Fig. 2 and *B. S. A.* 1902-1903, IX, p. 50, Fig. 26 d; the lily of *J. H. S.* 1902, XXII, Pl. XII, 3, which may be compared with Fig. 1; and the crocus, which is a common ornament both on Gournia vases of this period, and in Middle Minoan III design. Two other survivals of earlier decoration are to be seen in the marguerites of the Gournia vases and in such foliate sprays as those which decorate the neck of the jug in Fig. 36.² The



Fig. 35, from *J. H. S.* 1903, XXIII, p. 253, Fig. 17.



Fig. 36, from *Mon. Ant.* 1902, XII, Pl. VIII.

marguerites must be regarded as the descendant of the stiff rosettes of Middle Minoan II pottery, Fig. 14 *f, j, k*, and the foliate sprays of the Early Minoan III ornaments in Fig. 7 *b*.

Pure naturalistic patterns which have not occurred before are: (1) the tendril pattern, Fig. 37; (2) the ivy or heartshaped leaf, Fig. 38; (3) the nymphæa, *J. H. S.* 1902, XXII, Pl. XII, 2, and marine designs, including (4) the octopus; (5) the nautilus; (6) the Triton shell, and (7) seaweed. The first two of this naturalistic group with their waving stalks and alternating leaves are examples of the type of design which Riegl regarded as so important a contribution to early ornament (*Stilfragen*, p. 120 ff, Figs. 50 and 52). The fragment from Thera used by him as an illustration dates from the period under discussion. These graceful and decorative designs, which stand in marked contrast, indeed, to the art of Egypt and Assyria, are in accord with

¹Compare contemporary Thera and Melos vases, Perrot and Chipiez, *Histoire de l'art*, p. 909, Fig. 159, and *Phylakopi*, Pl. XIX, 9 and 10, and Pl. XXVII, 2.

²Compare the foliate sprays on Thera vases, Perrot and Chipiez, *op. cit.* VI, p. 908, Fig. 457, and on the Hagia Triada fresco in *Mon. Ant.* XIII, Pl. 10.

the spirit of earlier Cretan art. As far back as the Early Minoan III period, Cretan artists showed an interest in curvilinear design and an unerring sense of decorative effect. Thus this tendril pattern may well be compared with the designs in *Transactions* 1905, Vol. I, Part III, Pl. XXVII, 11 and Pl. XXXIII, 5. The ivy leaf of Fig. 38 is nearer to nature than most of the naturalistic designs of Cretan art, as may be seen by comparing it with the illustration on page 49, which is made from a photograph of a natural ivy, growing today in Greece.

The nymphæa blossoms which predominate in the central band of decoration in the Zakro pit jar (*J. H. S.* 1902, XXII, Pl. XII, 2) have been shown by Mr. Hogarth (*ibid.* pp. 336 and 337) to be an adaptation by the Cretan artists of an Egyptian motive. The Egyptian flower is stiff and for-



Fig. 37, from *J. H. S.* 1903, XXIII, p. 249, Fig. 3.



Fig. 38, from *J. H. S.* 1903, XXIII, p. 252, Fig. 15.

mal, the Cretan graceful and free, though, as Mr. Hogarth points out, the Egyptian type is nearer to an actual form in nature than are the flowing blossoms on the Cretan vase. The nymphæa thus confirms the story told by the lily type of ornament, viz.: that Egypt furnished formal types which the Cretan artists made over into a more naturalistic style of their own.¹

The Middle Minoan III ornaments from the shrine of the snake-goddess at Knossos have already borne witness to the interest of the Cretan artist in marine life. It is not surprising, accordingly, that in this period pictures of sea life should begin to appear on vases. On Gournia pottery of this period appear the octopus,² the nautilus, fronds of seaweed and the conventional pattern called by Mr. Bosanquet sea anemones,³ while on a vase from Hagia

¹ Riegl, who studied Mycenaean design before much pottery prior to the late Minoan I period was known, maintained (*op. cit.* p. 45, and *passim*) that the "Mycenaean" genius consisted chiefly in this ability to convert conventional into lifelike designs. Though at the end of his discussion (p. 134) he admitted some few patterns, chiefly marine designs, which were native to "Mycenaean" art. This list must now be materially increased. The originality of Cretan artists, moreover, has been established beyond doubt by such works of art as the Harvester's Vase (*Mon. Ant.* XIII, Pl. I-III) and the faience relief of a wild goat and young from Knossos (*B. S. A.* 1902-1903, IX, Pl. III.)

² *Transactions*, Vol. I, No. I, p. 43, Fig. 21, and forthcoming publication.

³ *J. H. S.* 1904, XXIV, p. 319.

Triada (*Mon. Ant.* 1903, XIII, col. 65, Fig. 52) appear Triton shells against a background of a scale pattern to be considered later.¹

A thorough and appreciative study of Cretan marine designs has recently been published by Mr. Bosanquet (*J. H. S.* 1904, XXIV, pp. 320-322). It remains here merely to state the fact of the appearance of this class of vases in this period and to point out, for the sake of comparison with later conventionalized marine motives, the lifelike form in which they here occur. An exception to this naturalistic rendering is the decoration of the jug in Fig. 39.² The streamers which curve about between the two bands of rock-work pattern



Fig. 39, from *B. S. A.* 1902-3, X, p. 285, Fig. 5.

are generally regarded as fronds of algae. But the artist's desire is not so much to represent sea life as to arrange graceful and harmonious combinations of lines, as may be seen by the insertion of the stop-gap ornament below the spout. The design is accordingly conventional naturalistic.

Another ornament of this class is the leaf pattern in *J. H. S.* XXIII, p. 253, Fig. 16, which is a common pattern in the succeeding period (see, e. g., Pl. III).

On the nymphæa vase from the Zakro pit is a heartshaped leaf conventionally drawn which recalls: (1) Fig. 7 *c* of the Early Minoan III period; (2) the faience pendant of the Middle Minoan III period (Fig. 31); (3) the naturalistic

¹The Zakro filler with marine designs in *J. H. S.* 1902, XXII, Pl. XII, 1, I have not included in this period since in general the Zakro houses from which it comes are later than the pits. But too much emphasis cannot be laid on the fact that the divisions between these periods are more or less arbitrary and that the different styles characterizing them overlap. Thus the Zakro bowls with tendril pattern painted in white (Fig. 37) are from the very beginning of this period as possibly the Zakro filler in question may be from the end.

²Exactly the same design recurs in 'Eφ. 'Αρχ. 1889, Pl. 7, 19.

ivy leaf of Fig. 38, and (4) the ornament in Fig. 36. No better illustration could be found of the varied sources of Cretan art, than is afforded by a comparison of these patterns. The ivy leaf of Fig. 38 we saw to be derived from nature.¹ On the contrary the type shown in Fig. 7 *c* owed its origin to curved lines drawn with reference to the shape of the field to be decorated.² Midway between these two extremes stands the slightly conventional leaf under discussion (the lobes of this leaf are represented by spirals), the highly conventional design of Fig. 31, in which the ivy or heartshaped motive is, as it were, a by-product, and the pattern in Fig. 36. The ornament in the center of the design in Fig. 36 is equivalent to the central lobe of the conventional type of lily (see Fig. 52). Its appearance within the ivy leaf may have reference to one or both of the following facts: the two recurving ends of the ivy leaf suggest the two leaves between which a conventional flower is commonly set (Fig. 51) and its shape is well adapted to the shape of the central space of the ivy leaf. The same facts will account for the outer flowerlike appendage, since it rounds out the ornament in this direction and since flowers are sometimes set between leaves which curve in toward the flower instead of away from it as in nature. (See, e. g., the Egyptian ornament in Fig. 40 and the small flowers in *J. H. S.* 1904, XXIV, Pl. XIII.³)



Fig. 40, from the *Cairo Museum Catalog*, No. 24071.

Another pattern foretold by the collection of faience objects from the temple repositories of Knossos is the "rock-work" pattern which begins in this period⁴ to be used as a means of defining the edges of a zone of ornament. The only case of it I can cite in this period (Fig. 39) may not seem to justify its name, but on an unpublished vase from Gournia, flowers spring from between the lobes of this pattern. It should be connected with the more elaborate honeycombed rock-work of marine designs. Both these conventional representations are combined with perfectly naturalistic ornaments.

¹ Compare *Phylakopi*, Pl. XVII, 32 and Pl. XIX, 1.

² Compare *Mon. Ant.* 1905, XIV, Part 2, col. 487, Figs. 91 and 92.

³ Mr. Edgar's explanation of this pattern *Phylakopi*, p. 131, that it is derived from the type of pattern in Schliemann, *Tiryns*, Pl. V, seems to me improbable in view of the widespread use of the ivy leaf or heartshaped motive in Mycenaean as in all design.

⁴ See below, p. 39.

Finally, in taking leave of the imitative designs of this period we note on Gournia vases the reappearance of the double axe motive.

Some of the non-imitative designs of this period are of the simplest rectilinear and curvilinear geometric type. The ornament on the beaked jug in Fig. 41, which recurs on Gournia vases, is one which it would not be surprising to find



Fig. 41, from *Mon. Ant.* 1905, XIV, col. 687, Fig. 5.



Fig. 42, from *J. H. S.* 1902, XXII, Pl. XII.

on neolithic pottery. Similarly there is to be noted the frequent use of wave lines (Fig. 42). The waved lines associated with dots in Fig. 45 Mr. Dawkins connects¹ with Middle Minoan decorations. A decoration composed of circles on a dotted background which is frequent on Gournia vases is perhaps



Fig. 43, from *J. H. S.* 1903, XXIII, p. 196, Fig. 12.



Fig. 44, from *J. H. S.* 1903, XXIII, p. 251, Fig. 14.

a progenitor of the flower in Fig. 43. If so, here is further evidence for the slight distinction felt between naturalistic and conventional patterns. The quirk remains in use during this period, both as a border motive and as a means of ornamenting the entire surface of a vase. The spirals of this period

¹ *J. H. S.* 1903, XXIII, p. 254.

frequently occur in this
are further ornamented
shortened form of cres-



form; and their centers
with white dots. A
cent is a stop-gap orna-

ment used in this period (Fig. 44), though possibly it may have been intended for a representation of the stamens of a flower, since it is used to top the stalks in Figs. 38 and 52 l. Here again we have witness of the ingenuity and skill of the Cretan potter in obtaining naturalistic effects out of unpromising material. The whorl used as a background for the lilies in Fig. 42 and as the main scheme of ornament in Fig. 45 is characteristic, both of this and of the succeeding Late Minoan II period. The ripple pattern (see Fig. 32) is as frequent in this as in the Middle Minoan III period.



Fig. 45, from *J. H. S.* 1903, XXIII, p. 253, Fig. 18.

By far the most interesting of the non-imitative patterns of this period is the scale pattern in Fig. 46, which recurs on a Gournia *bügelkanne* of this period. This pattern, described by Perrot and Chipiez (*op. cit.* VI, 1, p. 542) as

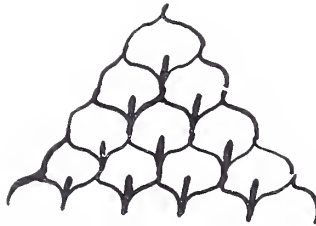


Fig. 46. Pattern used for background in the marine design
in *Mon. Ant.* 1903, XII, Part I, col. 65, Fig. 52.

a lozenge-shaped ornament with curved sides, is one of the most characteristic patterns of Mycenaean art. Mr. Edgar (see *Phylakopi*, p. 114 and Pl. XVI, 13, and Pl. XVIII, 2, 7, 14, etc.) thought it began at Phylakopi as a border pattern of trefoil curves, detached or running, but there should not be left out of account the facts: (1) that in Egypt a scale pattern was used to indicate

the plumage of birds as early as the first dynasty;¹ (2) that this pattern acquired central stalks (Fig. 47) as early as the XIIth dynasty,² and (3) that this Egyptian type was known in Crete, for it appears on unpublished fragments from the Knossos houses and in the preceding period as a representation of the natural ground in the faience plaque of the wild goat.³ The change to the more graceful trefoil shape of scale must be ascribed to the artistic taste of Cretan potters. Bits of ivory and paste of this shape have been found both at Knossos and at Spata.⁴ Some of the pieces from Knossos were pierced centrally, probably for the insertion of an ornament corresponding to that which generally characterizes the pattern on vases. It is evident that the trefoil curves of these scales were advantageous for inlay, although scales of the simpler Egyptian type were also used for this purpose

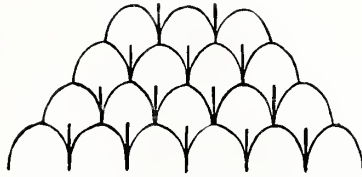


Fig. 47. Pattern used in Egyptian decorative art in the XIIth dynasty.

(*Mon. Ant.* 1902, XII, cols. 93 and 94, Fig. 28). The pattern became a favorite one not only because it was adapted to inlay and to filling large areas of vase surface but also because, in view of its graceful outlines, it made a background not inappropriate for a natural scene. To such an end it is used in *Mon. Ant.* 1903, XII, Part I, col. 65, Fig. 52, and in the steatite relief of an archer in *B. S. A.* 1899-1900, VII, p. 44, Fig. 13.

An excellent example of a mixed design which combines imitative and non-imitative is yielded by the Zakro pit bowl in Fig. 38. Here the decorator started out with a spiral which he drew in the orthodox way until he came to the outer coil which he broadened after the manner of the "rock-work" pattern. One of these lobes he lengthened into a leaf and thus obtained two diverging lines between which he could start a stalk in a semi-naturalistic fashion.

¹ See *Abydos* I, Pl. LXI, 9. This use of the pattern was not abandoned in Cretan art. See the birds on the seal stones in *B. S. A.* 1903-4, X, p. 56, Fig. 19. Possibly the scale pattern on the skirt of the goddess in *J. H. S.* 1901, XXI, p. 108, Fig. 4, and on the costume of the leader of the harvesters on the well-known Hagia Triada vase (*Mon. Ant.* 1903, XIII Pl. I) where the scales go the wrong way for a coat of mail, may represent festal garments of feathers. But the pattern is sometimes used where it did not represent feathers, e. g., in *B. S. A.* 1900-1901, VII, p. 29, Fig. 9 and *ibid.* 1901-1902, VIII, p. 107, Fig. 65.

² See *Beni Hasan* III, Pls. II, 7 and VI, 103.

³ *B. S. A.* 1902, 3, IX, Pl. III. Compare *Phylakopi*, Pl. XXIX, 7.

⁴ *B. C. H.* 1878, II, Pl. XIV, 1.

The flower which he put on the stalk is no real flower. The only truly naturalistic element in the design is the pair of tendrils springing from either side of the stem.

We have already had occasion (p. 27, footnote) to refer to the frescoes of the villa at Hagia Triada, which date from the end of this or from the beginning of the next period. Like the most characteristic class of vases of this period, their designs¹ are highly naturalistic in character. These plant motives—sprays of leaves and flowers—Prof. Halbherr has pointed out² to be local rather than Egyptian, so that here again, in the realm of wall decoration, we find evidence for the originality of Cretan artists.

LATE MINOAN II.

We come now to the second division of the Late Minoan II period. Again no break in continuity separates this from the preceding period. On the contrary, here, more than elsewhere, the transition from one style to another is gradual. The vases and vase fragments of this period might be arranged in a series, the first member of which would be scarcely distinguishable from the vases of the Late Minoan I period and the last from the Late Minoan III period. In fact, it seems scarcely possible to include Fig. 48 and Pl. III in the same class, and yet they belong to well defined groups which, as a whole, could not be put into any other period.

The technique of vases of this period differs but little from that of the foregoing period except that the decoration is now applied in the dark glaze paint alone without superadded white.

Characteristic of this period are large decorated amphorae and pithoi, standing, some of them, as high as 1.20 m. (Pl. II). The habit of decorating large vessels gives rise to a showy and, as Dr. Evans terms it, a quasi architectural style, the beginnings of which may be traced in the preceding period, but the full culmination of which takes place in this epoch. There is observable in this style, especially towards the end of the period, a *horror vacui* from which Late Minoan I vases were free. Parallel to this tendency toward stop-gap ornaments and a "close" style is to be noted a change in the syntax of designs. Designs are now frequently divided up either vertically (Pl. III), obliquely (*J. H. S.* 1904, XXIV, Pl. XI), or horizontally (*Prehistoric Tombs*, p. 158, Fig. 143). However, this period at its best, or as a whole is not decadent. Fig. 50 and Pl. II show the rare artistic skill which potters display, both in inventing designs and in adapting them to the field of the vase.

¹ See *Mon. Ant.* 1903, XIII, Part 1, Pl. VII-X.

² *Ibid.* cols. 55-60.

Every class of design except complex non-imitative is represented in the decoration of this period. In contrast with the designs of the preceding period it should be noted: (1) that the bulk of the designs has now shifted from the pure naturalistic to the conventional naturalistic class, and (2) that combinations of different kinds of design are more frequent. With these remarks by way of preface, we may look at these designs class by class.

Figs. 48 and 49 may be cited as evidence that pure naturalistic designs are not wanting in this period. The pea design (Fig. 48) from the northwest building at Knossos is typical. The shape of the pea blossoms has been truly rendered. The stalks curve upward after the manner of a growing vine and



Fig. 48, from *B. S. A.* 1902-3, IX, p. 117, Fig. 72.

yet the artist has not cared to draw the plant so accurately that the spectator could see at a glance what species it was. The realism here is again of a limited kind. Leaves and tendrils are omitted from among the blossoms and the whole plant is set on the same leafy stalk from which a palm or papyrus plant is commonly pictured as springing.¹ The same observation may be made of the designs in Fig. 49. These lanceolate leaves are lifelike and are set gracefully on their stems, but they grow as no leaves ever grew.

Of the marine designs in Fig. 50, the Zakro filler in *J. H. S.* 1902, XXII, Pl. XII and the vases regarded by Mr. Bosanquet as Cretan importations into Melos (*J. H. S.* 1904, XXIV, Pl. XII), little further comment is necessary. It is important, however, to point out the skill in composition which they display. In the filler bottle from Palaikastro, for example, the wider space

¹ This leafy stalk goes back to the Middle Minoan II period. See Pl. I.

on the shoulder is filled with a design of rock-work and seaweed enclosing a large star, while to the narrowing field below are nicely adapted the tapering murex or Triton shells.¹ The star on the Zakro filler Mr. Hogarth thinks could not be regarded as a starfish since it is treated much more conventionally than the other forms of marine life on the same vase.² This reason for his view does not seem conclusive inasmuch as it is characteristic of this period to combine pure naturalistic with conventional naturalistic designs. There is, however, good evidence to show that the star was a conventional or rather symbolical design. On a larnax from Palaikastro (*B. S. A.* 1901-2, VIII, Pls. XVIII and XIX) of the succeeding period, it occurs in one design without forms of marine life and together with the double axe and horns of worship. Moreover, the eight-rayed star and the double axe are often associated in the signs which mark the blocks of the Knossos palace (*B. S. A.* 1903-1904, X, p. 29). In explanation of the design of the Palaikastro larnax Sig. Savignoni (*Mon. Ant.* 1905, XIV, Part 2, col. 575) says that the



Fig. 49, from *J. H. S.* 1903, XXIII, p. 195, Fig. 11.



Fig. 50, from *B. S. A.* 1902-3, IX, p. 311, Fig. 10.

bird stands for the human soul, the rock-work pattern around the border for the river encircling the world, and the star and double axe for the divine ruler of light above. Without admitting all of his theory, we may yet attribute to the star religious significance. On the Zakro and Palaikastro vases it seems to have been chosen not only for its symbolical meaning but also for its artistic value in the design.

The most frequently repeated of the conventional naturalistic patterns of this period is the "leaf pattern" (see Pl. III). One reason for the popularity

¹ Compare Bosanquet, *loc. cit.* p. 321.

² *J. H. S.* 1902, XXII, p. 334.

of this ornament was doubtless that it was easy to draw. A potter must have been able to put the pattern in very rapidly with a brush, especially in narrow areas like the band in Pl. III where there were outer limits to help to keep the pattern even. Similarly long narrow moulds for this pattern, into which the metal worker would hammer rims or border patterns on his sheets of bronze or gold, cannot have been difficult to make.¹

Groups of three leaves, generally hanging in pendant form, occur frequently in this period both as a main decorative motive and as a stop-gap ornament (Fig. 67, *Athen. Mitt.* 1886, XI, Pl. III; *J. H. S.* 1903, XXIII, p. 192, Fig. 10) and among the imported fragments at Phylakopi (*Phylakopi*, Pl. XXXI, 2).²



Fig. 51, from *B. S. A.* 1902-3, IX, p. 311, Fig. 9.

In Fig. 52 appear various forms of conventional and conventionalized flowers which characterize this and the following period.³ The papyrus blossom (*m*), which is still quite close to the Egyptian prototype, and the lily (*k*), which is characteristic of Late Minoan I pottery, seem to have been the types from which most of these forms sprang, though, as might be expected, the types have, in many cases, become confused. The utter disregard for consistency which Mycenaean potters sometimes display is well illustrated in Fig. 52 *l*. The presence of rosettes within the coils of the two petals must be explained by the habit of finishing spirals with rosettes, while the

¹ See *Prehistoric Tombs*, p. 122, Fig. 116, and Schliemann, *Mycenae*, p. 320, Nos. 482 and 483.

² Compare the trefoils on the Middle Minoan II sherd in *Phylakopi*, p. 149, Fig. 130.

³ *a*, *c*, *e*, *f* and *h* are from the succeeding period.

small blossom between the flower and leaf is nothing else than a pea or bean blossom (compare Fig. 48). If the semicircular fields of ornament in Pl. III be looked at from the side, it will be seen that the central motive which Dr. Evans has connected (*Prehistoric Tombs*, p. 160) with the double axe is similar to that in Figs. 52j and 56. It should therefore be regarded as a conventional flower. A frequent border pattern built up around the same



Fig. 52. a, c, e, f, h and m are from *J. H. S.* 1903, XXIII, p. 192, Fig. 10 and p. 197, Fig. 13; b, d and g are from *Prehistoric Tombs*, Pl. C, opp. p. 156, Pl. CI, opp. p. 157 and p. 158, Fig. 143; i, j and l are from pottery found in 1900 in Knossos houses by Mr. D. G. Hogarth.¹

papyrus core is shown in Fig. 53.² During this period the tendency is gaining ground to fill in the field of the flower with lines (Fig. 52, b, d, and i). This tendency develops parallel to the *horror vacui* which indicates not only a dearth of artistic inspiration but also the decline of imitative design. For

¹For permission to publish these last designs and Figs. 53, 56, 58, 59 and 60, I am indebted to the courtesy of Mr. Hogarth.

²Compare the design in the upper right corner of the lower mould in Schliemann, *Mycenae*, p. 107, No. 162.

the potter, in filling the empty spaces between the main lines of the design, shows that his thought is not on the ornament he applies but on the field he decorates. The abundance of stop-gap ornaments in this and the succeeding period would have foretold the return of a geometric style of ornament even if that style had not been known before the art of the bronze age was revealed.¹

The insertion of flower types within heartshaped leaves (Figs. 54 and 55) is frequent in this as in the preceding period (compare Fig. 36). The explanation of the origin of these patterns given on page 30 will be confirmed by a comparison of them with Fig. 52 *l*. The running "ivy leaf" pattern in Fig. 56² is to be explained in the same way, except that in this case the recurving ends of the ivy leaf pass into the ends of the flower itself, not into the leaves below it.



Fig. 53. Design on a Sherd from a Knossos House.

The rock-work pattern might in this period be quite as well classed with the non-imitative as with the imitative designs, for it is used in the majority of cases without any thought of picturing the natural surface of the ground. Most frequently it is employed for decorating the necks of vessels (*Prehistoric Tombs*, Pl. C, opp. p. 156 and Pl. CI, opp. p. 157), but it is also used in the framework of a design.³ The habit of using this pattern for framing a design was doubtless formed in the school of fresco painting (see *Phylakopi*, Pl. III). It seems to have become so fixed that decorators continued to apply it in places where it was quite inappropriate, as on the bodies of animals. Thus in the Tiryns bull fresco (*Tiryns*, Pl. XIII, opp. p. 352) it is applied as if the outlines of the bull's body were to be the frame for a picture.⁴

Among the non-imitative patterns, spirals, dots, and festoons continue in use during this period. The spiral is frequently enriched by a rosette

¹ Compare R. M. Dawkins, *B. S. A.* 1902-3, IX, p. 316.

² Compare *Prehistoric Tombs*, p. 158, Fig. 143.

³ Compare the later larnax from Palaikastro in *B. S. A.* 1901-2, VIII, Pls. XVIII and XIX.

⁴ Compare also the horses in *Myk. Vas.*, Pl. XLI. Curiously enough this method of decorating animals' bodies persisted until the sixth century when it appears on the Clazomenae sarcophagi (e. g., *Ant. Denk.* I, 44).

within its volute (*Prehistoric Tombs*, p. 69, Fig. 75 and Pl. C, opp. p. 156). A row of spirals to which horns are added for the sake of making a closer pattern¹ is frequently used for a border decoration (Pl. III). The quirk, which has occurred in every earlier period and which recurs in the next period does not, so far as noticed, occur now.

Both of the scale patterns described on pp. 32 and 33 reappear in this period. On unpublished sherds found by Mr. Hogarth in 1900 near the Knossos palace



Fig. 54, from *Prehistoric Tombs*,
p. 156, Fig. 141 b.



Fig. 55, from *J. H. S.* 1902,
XXII, p. 192, Fig. 10.



Fig. 56, from a Sherd from
a Knossos House.

occurs the counterpart of the Egyptian scale pattern in Fig. 47 and again a pattern similarly reticulated but embellished by large dots instead of by stalks. Especially characteristic of this period is the other type of reticulated pattern, examples of which with various central ornaments are shown in Figs. 57 to 59.² It will be noticed that the favorite ornament is a conventional flower, which helps to give that quasi naturalistic effect in which Mycenaean artists delighted. The trefoil arches of this pattern are used in rows for a

¹ See Edgar, *Phylakopi*, p. 130.

² Compare *Myk. Vas.*, Pl. VI, 32, XII; Pl. XXVII, 217; and Pl. XXXII, 306, 307, and 308.

border decoration (Fig. 59), and separately in floral decoration¹ to represent rocks or the surface of the ground. Yet in such design the use of the ornament seems due in part to the fact that, because of its shape, it made a useful motive for filling in the semicircular space left between the spreading leaves of two plants.

On faience plaques from Knossos, Mycenae, and Tel-el-Yehûdiyeh in Egypt occurs a sign like the late form of the Greek letter Alpha (*B. S. A.* 1899-1900, VI, p. 42; *Prehistoric Tombs*, p. 110, footnote, and *J. H. S.* 1904, XXIV, p. 328). This sign was evidently taken over as a decorative motive for pottery of this period (see Fig. 60). In some cases the pattern seems to have been confused with a flower type. The combination of this motive with spirals shown in Fig. 60 is repeated on Naukratis ware (*Naukratis*, II, Pl. IX, 5).



Fig. 57, from *Athen. Mitt.* 1886, XI, Pl. III.



Fig. 58. Design on a Sherd from a Knossos House.



Fig. 59. Design on a Sherd from a Knossos House.

The checkerboard pattern which marks off the field of ornament in Pl. III is noteworthy for two reasons: first, it resembles the checkerwork in the architectural fragment of the "miniature" fresco in *J. R. I. B. A.* 1903, X, third series, p. 113, Figs. 15 and 21, which has already been compared² to Egyptian monuments of the Vth and XIIth dynasties,³ where generally, however, such bands represent the architectural framework of a door, and secondly, it forecasts a characteristic decoration of the Cretan geometric style.⁴

Fig. 61 shows a mixed design of this period. It is made up of spirals, tendrils, and groups of blossoms combined in much the same way as were the designs in Figs. 25 and 38.

During the period of the great palaces at Knossos and Phaistos many arts besides vase painting must have flourished. To the skill of the worker in

¹ On the reverse of the jar in Pl. II.

² See Evans in Archaeological Report of the Egyptian exploration fund 1899-1900, p. 60 and *Prehistoric Tombs*, p. 160, footnote.

³ *Deshasheh*, Pl. XXVII; *Ptahetep I*, Pl. XXa; *Beni Hasan I*, Pl. XXXVII and *ibid.* IV, Pl. XXI.

⁴ *Athen. Mitt.* 1903, XXVIII, p. 159 and Pl. XVII, opp. p. 144.

metal the bronze vessels from the northwest building at Knossos and the swords from the Zafer Papoura graves bear witness. The more noteworthy ornaments on these, the "leaf pattern" (*B. S. A.* 1902-1903, IX, p. 124, Fig. 77), the ivy leaf (*ibid.* p. 126, Fig. 80), a conventional lily (*ibid.* p. 127, Fig. 81),



Fig. 60. Designs on Sherds from Knossos Houses.

and spirals (*Prehistoric Tombs*, p. 56, Fig. 58) are frequent in vase painting. The design of wild goats and lions on the agate sword handle from a Zafer Papoura tomb (*Prehistoric Tombs*, p. 57, Fig. 59) shows more affinity for the



Fig. 61, from *B. S. A.* 1903-4, X, p. 206, Fig. 4.

gem cutter's art, in which animals are frequent subjects. The ground of this scene, however, is indicated by a conventional representation of rocks, similar to that in fresco painting, from which the more cursory representation of the vase painter was adopted. Mr. Evans thinks that the "leaf pattern" was taken¹ over by potters from metal vases. This is the natural course of events,

¹ *Prehistoric Tombs*, pp. 121 and 122.

that less costly products should imitate the more costly, yet the ease with which this pattern can be applied with the brush and the fact that it appears on a Zakro vase in the Late Minoan I period make it seem possible that its use in ceramic art is as ancient as its connection with metal vases.

In the Zafer Papoura graves near Knossos, considerable quantities of jewelry were found of the types known at Phaistos, Mycenae and elsewhere. In some cases (e. g., grave 36, *Prehistoric Tombs*, p. 58, Fig. 60) these jewels were found in graves assigned to the Late Minoan II period. But since the majority of these gold ornaments belongs in the Late Minoan III period, they will be considered later as an undivided group.

Most closely akin to the ceramic art in method is the art of fresco painting, especially during this Late Minoan II period. The larger vases presented as extended a field for decoration as that occupied by fresco pictures. Such jars as that in Pl. II were very likely made to match the decoration of the room in which they stood. Further, the smaller patterns on "miniature" frescoes, borders, and other small areas of painted plaster offer many analogies to the patterns used on vases.

On Late Minoan II frescoes appear purely naturalistic motives, like the lily (*B. S. A.* 1901-1902, VIII, p. 92), sprays of leaves (*ibid.* p. 110), grasses (*B. S. A.* VII, p. 59), the ivy leaf (*J. R. I. B. A.* 1902, p. 129, Fig. 71) and marine designs (*B. S. A.* 1901-1902, VIII, p. 58), as well as conventional naturalistic designs like marguerites (*J. R. I. B. A.* 1902, Pl. I), papyrus blossoms (*ibid.* p. 125, Fig. 63), the leaf pattern (*ibid.* p. 123, Fig. 50), heartshaped leaves with flowerlike appendages like those in Fig. 36 (*ibid.* p. 117, Fig. 40, p. 125, Fig. 62 and p. 130, Fig. 81) and several designs like the double axe and horns of worship (*ibid.* Pl. II). Among the non-imitative designs are the scale patterns of Figs. 57-59 with various central ornaments (*ibid.* p. 123, Fig. 52 and p. 128, Fig. 69), spiraliform ornaments of different types, including the "horned spiral" (*ibid.* p. 121, Figs. 45 and 46)—which may well have arisen in the effort of the fresco painter to adapt a spiraliform design to the square field of a ceiling or wall—the spiral with a rosette center (*ibid.* p. 120, Fig. 43), the checkerboard pattern (*ibid.* Pl. II), and various simple linear patterns, known on Late Minoan I and Late Minoan II vases.

Thus the repertoires of the potter and the painter of frescoes are largely identical. The most characteristic patterns of the vases of this period, like the scale pattern and the ivy leaf types, are conspicuous in the designs of frescoes. Only one pattern on painted plaster—the tooth ornament—(*ibid.* p. 127, Figs. 64-67) does not appear on vases. It is quite likely that for palace products at least, the same artists were employed to decorate both walls and vases. However that may be, it is impossible to ascribe to either vases or fresco painting a predominant influence in setting the style of decoration.

LATE MINOAN III.

And now, finally, we come to that period of "Mycenaean" culture widely known from other sites than Crete. During this period a style of ornamentation prevailed, which, compared with that used in preceding periods, is lifeless and uninteresting, but which, nevertheless, has given to most people their idea of Mycenaean art.

In this period are included two groups of vases. The one stands at the very beginning of the period and marks the transition from Late Minoan II style; the other stands at the end of the period and marks the lowest ebb of Mycenaean art just prior to the rise of the geometric style. The one group includes pottery from block γ in Palaikastro (see table), from the Zafer Papoura graves at Knossos, and from the necropolis at Phaistos (see table). It is charac-

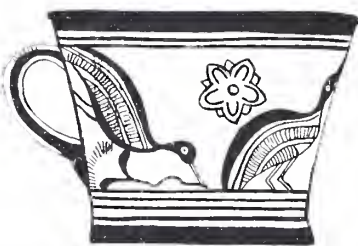


Fig. 62, from *B. S. A.* 1902-3, IX, p. 318, Fig. 17.

terized by the "close" style,¹ the beginnings of which go back to the preceding period (see p. 34). The other group is made up largely of the ceramic remains of the "squatter" civilization at Knossos and Palaikastro. It is marked by the frequency of the degenerate octopus ornament. In this later period there is a falling off in the quality of both clay and paint. The *bügelkanne* is again a common shape.²

Few pure naturalistic designs are in use during this period. The most lifelike of the decorative motives which occur are fishes and birds (Fig. 78, *Mon. Ant.* I, Part 2, Pl. I; *J. H. S.* 1903, XXIII, p. 198, Fig. 14; *Mon. Ant.* 1905, XIV, Part 2, Pl. XXVIII; *Myk. Vas.* Pl. XIV, 87). Both of these motives have occurred occasionally in earlier Cretan art. A fish is the main decorative motive on a Middle Minoan II vase in *Mon. Ant.* 1895, VI, Pl. IX, 8, and on a cup of the same period from Gournia. It figures again on a Knossos vase-fragment (*B. S. A.* 1902-3, IX, p. 115) of the Late Minoan II style and in the frescoes and among the faience models of the later palace. Birds also are not unknown in earlier art (*J. H. S.* XXIII, p. 198, Fig. 14). But nowhere

¹ *B. S. A.* 1902-3, IX, pp. 316 and 317.

² See *Prehistoric Tombs*, p. 121.

in earlier art do these motives assume the prominent position in the potter's repertoire which they hold during this period. In view of the frequency with which they appear and of the unnatural juxtaposition into which they are brought (e. g., *Mon. Ant.* 1891, I, Part 2, Pl. I and *ibid.* 1905, XIV, Pl. XXXVII) they may be regarded as symbolical of the heavens and of the



Fig. 63, from *B. S. A.* 1902-3, IX, p. 315, Fig. 14.

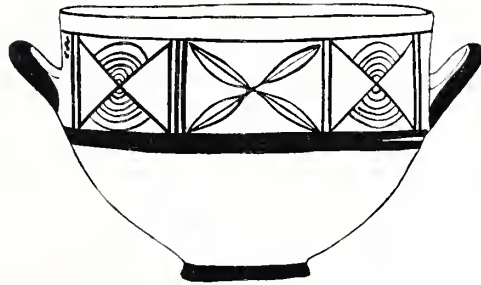


Fig. 64, from *B. S. A.* 1902-3, IX, p. 319, Fig. 19.

sea.¹ Something of this symbolical meaning may have still been attached to birds and fishes in the geometric period when they again appear in the midst of a purely geometric style (*Athen. Mitt.* 1903, XXVIII, Pl. III,—opp. p. 104,—2; Pl. VI, 2—opp. p. 105—and Pl. XXXII, 2,—after p. 192,—etc.).



Fig. 65, from *B. S. A.* 1902-3, IX, p. 319, Fig. 18.

The class of design most characteristic of this period is the conventionalized naturalistic class. In Fig. 52, *d*, *f*, *g*, *h* and *j*, are shown various shorthand methods of rendering flowers. The most naturalistic Late Minoan III flower-type is Fig. 52 *h*, which is not far removed from the lily in Fig. 1. In the next stage of degeneration, the row of stamens becomes a row of dots, while the center of the flower is indicated by curving cross-lines (Fig. 52 *j*) or by more

¹ Compare the above mentioned view of Sig. Savignoni in *Mon. Ant.* 1905, Part 2, XIV, col. 572 ff.

dots (Fig. 52 *g*). Finally this cursory rendering of flowers became so habitual with the potter that whenever two lines in his design made an angle, he could not resist filling in the angle with cross-lines as if it were a bud (Figs. 63–65 'Εφ. Αρχ. 1904, Pl. I, and *Prehistoric Tombs*, p. 22, Fig. 14, etc.). In Fig. 65

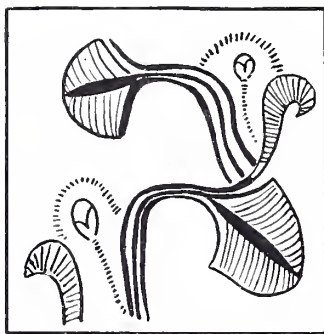


Fig. 66, from *Mon. Ant.* 1891, I, Part 2, Pl. I.

dots are retained to indicate stamens. The papyrus type of flower is sometimes clearly distinguishable from the lily (Fig. 66, *Prehistoric Tombs*, p. 91, Fig. 102, and *Mon. Ant.* 1891, I, Part 2, Pl. I, 3). The smaller flowers between the papyrus leaves in Fig. 66 will be recognized as the equivalent of the central ornament in the semicircular designs of Pl. III. The ends of this



Fig. 67, from *B. S. A.* 1902–3, IX, p. 214, Fig. 5.



Fig. 68, from *Myk. Vas.* p. 23, Fig. 13.

ornament are in one case joined below in a meaningless circle, while the stamens, leaves and stem are indicated in the linear method of the period.

To the conventionalized naturalistic class belong also the debased forms of octopus and Triton shell prevalent in this period. In Fig. 67 the once life-like octopus has been reduced "to a mere symmetrical center to a continuous series of curves."¹ The ornament in Fig. 68 is generally regarded as a debased form of murex or Triton shell.²

¹ *Prehistoric Tombs*, p. 127.

² See Schliemann, *Mycenae*, p. 138 note; Fabricius in *Tiryns*, p. 349; Hogarth, *J. H. S.* XXII, p. 337 and Fig. 16, and Evans, *Prehistoric Tombs*, p. 128.

Finally, among the conventionalized naturalistic designs of this period should be mentioned the "rock-work" pattern which is used both to indicate the surface of ground, as in *Prehistoric Tombs*, p. 91, Fig. 102, and to fill in space, as in *Mon. Ant.* 1905, etc. In the latter case it receives the same cross-lined, geometric style of treatment as that which flowers of this period undergo.

Of the non-imitative designs with which we have become familiar only a few simple motives remain in use. These are the spiral, the checkerboard pattern (*Mon. Ant.* 1905, XIV, Part 2, Pl. XXXVII), and the quirk. The linked spiral design in *Prehistoric Tombs*, p. 91, Fig. 102a, is evidently, as Mr. Evans has pointed out (*ibid.* p. 90), an adaptation of designs on contemporary Egyptian chests and ceilings.

Among the important objects belonging to this Late Minoan III period are numbers of small gold and paste ornaments closely analogous to those which have been found at Spata, Dimini, Ialysos, and Mycenae (see table, opp. p. 50). These finds come mainly from the Zafer Papoura graves near Knossos and from the necropolis at Phaistos. The motives chiefly used for their decoration are the following: a pair of nautili similar to those which appear on Late Minoan I vases, arranged to fill a rectangular area (*Mon. Ant.* 1905, XIV, Part 2, col. 595, Fig. 59, and *Prehistoric Tombs*, p. 130, Fig. 119); butterflies (*Mon. Ant.* XIV, Part 2, col. 601, Fig. 66); flowers (*ibid.* col. 597, Fig. 61, and *Prehistoric Tombs*, p. 76, Fig. 85, and p. 130, Fig. 119); pairs of spreading petals (*Mon. Ant.* 1905, XIV, Part 2, col. 599, Fig. 62); rosettes (*ibid.* and col. 601, Fig. 63, and *Prehistoric Tombs*, p. 130, Fig. 119); conventionalized lilies (*Mon. Ant.* XIV, Part 2, col. 609, Fig. 78);¹ leaves of the ivy or heartshaped type with central ornaments and triangular attachments to fill the intervals between the leaves (*ibid.* col. 611, Fig. 80, and col. 614, Fig. 81); spirals with similar attachments (*ibid.* col. 609, Fig. 78); an ornament consisting of a single pendant spiral or curl (*ibid.* col. 614, Fig. 82); lobes of the scale pattern of Fig. 62 (*ibid.* Fig. 83); and the sacred shield (*Prehistoric Tombs*, p. 44, Fig. 41).

The designs of these small ornaments are exactly those with which we have become familiar on vases. Only one or two, the pendant curl and the butterfly, are foreign to the potter's repertoire of patterns. The prevalence of these designs in these minor arts of gold and paste ornaments may have aided in fixing the type of such motives as the conventional lily, the ivy leaf and the nautilus. Goldsmiths are not so liable to careless workmanship as potters. In some cases a reacting influence from the designs of jewelry may have been

¹ Compare Schliemann, *Mycenae*, p. 183, No. 278 and p. 199, No. 303, and *B. C. H.* II, Pl. XV, 3, 4 and 5.

exerted on vases. The strings of buds in *Myk. Vas.* Pl. XXXIV, 336, look like the necklace of gold beads in the form of buds which is shown in *Mon. Ant.* 1905, XIV, Part 2, col. 597, Fig. 61.

CONCLUSION.

The designs which we have examined record some two thousand years of artistic development. At the beginning of this period man's instinct for balance, rhythm, and harmony is satisfied by the simplest linear geometric ornament, notably by the zigzag. The established use of the brush is influential in the transformation of this rectilinear into curvilinear ornament and many experiments in curvilinear decoration follow in the Early Minoan III period. Among them are motives which look like natural objects and gratify the primitive instinct for imitative art. Conventional naturalistic designs, thus casually begun, continue throughout the Middle Minoan II period with growing realism; but more typical now is non-imitative ornament, which includes a large variety of simple motives as well as complex designs constructed for the sake of balance, rhythm, and harmony. Some of these non-imitative designs reach a high degree of artistic merit, while others are crude and fantastic. The prevalence of this class of design is parallel to the use of polychromy. In the Middle Minoan III period pure naturalistic designs supersede non-imitative designs. Their introduction is to be attributed in part to Egyptian influence, but Cretan designers, trained by long practice in artistic arrangement of line and color, are able to secure more naturalistic as well as more decorative effects than Egyptian artists. This change to a naturalistic style is effected on pottery which for technical reasons must be regarded as the direct descendant of Middle Minoan I and II ware. Moreover, the non-imitative patterns of preceding periods are frequent still, so that no violent break can be assumed before the introduction of the naturalistic style. In the succeeding Late Minoan I period the same naturalistic style prevails, and various new ways of combining naturalistic motives are invented. A large stock of non-imitative motives inherited from the early and middle periods are also in use. In the period of the great palaces at Knossos and Phaistos, conventional and conventionalized flowers replace, in part, naturalistic motives. The beginning of a tendency to divide up the fields into small areas is observable. In the Late Minoan III period, designs are neither adapted from nature nor invented, but instead debased forms of naturalistic motives are unintelligently copied. The artist's chief concern is to pack with ornament the panels or zones into which he divides his fields. Such a system of decoration not only indicates lack of artistic originality but also heralds the approach of a purely geometric style.

The statement of Professors Furtwängler and Löschke quoted on page 5 had reference, it will be remembered, to vases with lustrous paint. This class

of vases is in general equivalent to the vases of the three Late Minoan periods, when naturalistic designs prevailed over every other kind of ornament. Consequently the statement that these designs were in the main naturalistic is quite in accord with what we have found to be true. But the derivation from weaving of the non-imitative motives used during this period is not now plausible, for it is clear that the quirk, the ripple motive, the festoon, and most, in fact, of the non-imitative patterns, were native to vases. Moreover, unless due importance is attached to the earlier, non-imitative designs, the most characteristic features of "Mycenaean" ornament will not be rightly understood. For the skill which artists of the Late Minoan periods display both in arranging naturalistic motives with a maximum of decorative effect and in combining imitative and non-imitative motives with a maximum of lifelike effect, must be attributed to their inheritance from earlier periods when designs were made solely for the sake of balance, rhythm, and harmony of line.

EDITH H. HALL.

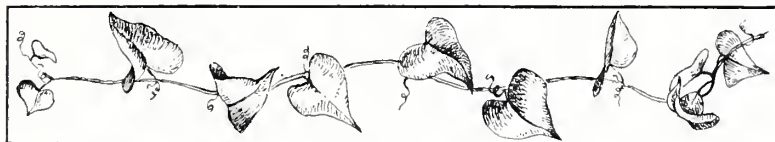


TABLE GIVING CLASSIFICATION OF CRETAN BRONZE AGE DESIGN.

Name of Period.	VASES.		OTHER DECORATED OBJECTS.		NON-CRETAN PARALLELS.	
	Provenience.	Publication.	Kind and Provenience.	Publication.	Kind and Provenience.	Publication.
EARLY MINOAN I.			{ Not yet published in detail. }			
	Knossos (pit below "Room of Stone Vats").	Evans, <i>B. S. A. IX</i> , pp. 94, 95 and 96, and Figs. 65, p and q, and 66, b, d and f.			Pottery from strata at Troy.	II-VI Schmidt in <i>Troja and Iliou</i> , pp. 252-280.
	Hagios Onuphrios deposit.	Evans, <i>Cretan Pictographs</i> , p. 114, Fig. 106a.				
	Gournia. Rock shelter V.	Boyd, <i>Transactions</i> , Vol. I, Part III, p. 182 and Pl. XXV G V a.				
EARLY MINOAN II.	Vasiliki houses, Periods II and III.	Seager, <i>ibid.</i> , pp. 213 ff., p. 213, Fig. 4 and Pls. XXXIV and XXXV.				
	Hagia Photia, Cave I.	Boyd, <i>ibid.</i> , p. 184, Fig. 4, b.				
	Palaikastro "τὰ Ἐλᾶρκα"	Dawkins, <i>B. S. A. X</i> , pp. 196 ff., p. 197, Fig. I, and p. 201, Fig. 3b.				
	Palaikastro δ 32, lowest stratum.	<i>ibid.</i> , pp. 198-200.				
	Zakro cave burial.	Hogarth, <i>B. S. A. VII</i> , pp. 142 ff., Fig. 52, middle in upper row.				
	Knossos (basement N. of S. E. house).*	Evans, <i>B. S. A. IX</i> , pp. 18 and 19.				
	Knossos (pit beneath court).	W. Evans, <i>B. S. A. X</i> , p. 20.				
EARLY MINOAN III.	Gournia waste-heap.	Hall, <i>Transactions I</i> , Part III, pp. 191 ff., Pls. XXVI-XXXIII.				
	Vasiliki, later houses.	Seager, <i>ibid.</i> , p. 218.				
						"Banjo figurines," primitive stone vases and incised pottery from the Cyclades, "Eφ. Τροίας," cols. 137-212, Pls. 8-12 and <i>ibid.</i> 1899, cols. 74-134, Pls. 7-10.

	Palaikastro, δ 32	Dawkins, <i>B. S. A. IX</i> , p. 199, Fig. 2.	
MIDDLE MINOAN I.	Palaikastro (early cemeteries and earliest town deposits).	Bosanquet, <i>B. S. A. VIII</i> , pp. 290-297, Figs. 9-12. Dawkins, <i>B. S. A. IX</i> , pp. 300-307, Figs. 2-5,†	Painted figurines from Myres, <i>B. S. A. IX</i> , pp. 356-388, Pls. VII-XIII, Petsofá.
	Hagia Photiá.	Boyd, <i>Transactions I</i> , Part III, p. 185, Pl. XXV, A. 1th, II and IIa.	
	Kamareos Cave.	Mariani, <i>Röm. Mitt.</i> , 1894, IX, p. 100, and <i>Mon. Ant.</i> , 1895, VI, col. 334 ff., Pls. IX-XI.	Frescoes of earlier palace, Knossos, p. 109, Figs. 1 and 2.
	Knossos Palace.	Myres, Proceedings of the Society of Antiquaries, 14 May, 1895, p. 351. Mackenzie, <i>J. H. S. XXIII</i> , pp. 170-179, Pls. V-VII.	Pottery of the transition period from 1st to 2nd city; early stages of the 2nd city, Melos. Cretan pottery of this period found at Kahun (XIIIth dyn.), Egypt.
MIDDLE MINOAN II.	Knossos Palace (earlier Evans' rooms in "Olive Press Area" beneath later palace basements).	Evans, <i>B. S. A. IX</i> , p. 19 ff., Fig. 8, and Pl. II.	
	Knossos Palace (store Evans' rooms of earlier palace).	Evans, <i>B. S. A. VIII</i> , pp. 117-121, Figs. 70 and 71.	
	Knossos Palace (N. W. Building).	Evans, <i>B. S. A. IX</i> , pp. 112-121, Figs. 73-75.	
	Knossos Palace (lower floor level below W. court).	Evans, <i>B. S. A. X</i> , pp. 14-18, Figs. 4-6.	
MIDDLE MINOAN II.	Knossos houses.	Hogarth, <i>J. H. S. XXI</i> , p. 78 ff., Figs. 7-9, 7-24, Pls. VI and VII.	
	Palaikastro (low-lying strata).	Dawkins, <i>B. S. A. IX</i> , p. 298 ff., Fig. 8.	
		Dawkins, <i>B. S. A. X</i> , pp. 210-212.	
	Phaistos Palace, earlier Pernier strata in general.	Pernier, <i>Mon. Ant.</i> , XII, cols. 110-114, Figs. 43-44 and Pl. VIII, 6.	

W. court.)	cols. 407-410, 488-492, Figs. 93-95, Pl. XXXVa.				
(Early magazines 69.)	<i>Ibid.</i> , col. 418, Figs. 41-44, Pls. XXVIII and XXXIV.				
(Pit in corridor 7.)	<i>Ibid.</i> , col. 456, and Pl. XXVb.				
Hagia Triada, Tholos tomb, Paribeni, <i>ibid.</i> , col. 683, Pl. XLII, 2.					
Trench behind tomb.	<i>Ibid.</i> , cols. 695-696, Pl. XLII, 1, 3 and 4, XLIII, 1 and 2.				
Knossos (pit in "Room of the Olive Press").	Mackenzie, <i>J. H. S.</i> , XXIII, p. 179 ff., Figs. 4 and 5.	Faience models from the "Temple Repositories," Knossos.	Evans, <i>B. S. A.</i> , IX, p. 62 ff., Figs. 42, 44, 45, 47 and 54-58, and Pl. III.	Bird vases from Melos. Pl. XXI.	<i>Phylakopi</i> , pp. 118-123, Pl. XXI.
"Plaster Closet."	Evans, <i>B. S. A.</i> , VIII, p. 87 ff. and p. 90, Figs. 50 and 51.			Early vases from shaft graves, Mycenae.	Furtwängler and Löschcke, <i>Myk. Thom.</i> , Pls. VIII and IX.
"Temple Repositories."	Evans, <i>B. S. A.</i> , IX, pp. 94, and Fig. 26.	Seals with naturalistic designs, Knossos.	<i>Ibid.</i> , p. 51 ff., Figs. 28-34.	Earlier vases from Thera.	The Perrot and Chipiez, <i>Hist. de l'art</i> , VI, p. 906, Pl. XX.
Phaistos (lower stratum in 5).	Pernier, <i>Mon. Ant.</i> , XIV, p. 458, Figs. 67 and 68.				
Palakastro, § 20.	Dawkins, <i>B. S. A.</i> , X, p. 195 and p. 206.				
Knossos (below floor 18th magazine).	Mackenzie, <i>J. H. S.</i> , XXIII, p. 185 ff., and Fig. 7.	Stearite vase with procession of harvesters, Hagia Triada.	Savignoni, <i>Mon. Ant.</i> , XIII, cols. 77-132, Pls. I-III.	Vases from the middle period of the shaft-graves, Mycenae.	Furtwängler and Löschcke, <i>Myk. Thom.</i> , Pls. IV-VII and X-XI.
Phaistos.	Pernier, <i>Mon. Ant.</i> , col. 115, Pl. VIII, 3.	Frescoes from Hagia Triada.	Hallherr, <i>Mon. Ant.</i> , XIII, cols. 55-59, Pls. VII-X.	Later vases from Thera.	Furtwängler and Löschcke, <i>Myk. Thom.</i> , p. 21, Figs. 7 and 8, and Perrot and Chipiez, <i>loc. cit.</i> , pp. 908 and 909, Figs. 457, 2 and 458, 2.
Hagia Triada.	Hallherr, <i>ibid.</i> , XIII, col. 65 ff., Figs. 52 and 53.				
Paribeni.	<i>Ibid.</i> , XIV, col. 687 ff., Figs. 4 and 5.				
Gournia, town deposits.	Boyd, <i>Transactions</i> I, Part I, p. 43, Fig. 21, and forthcoming book on Gournia.			Earlier pottery from 3rd city, Phylakopi.	Pls. XXV-XXX.

Palaiakastro, β 10 and 13, lower stratum, Κεφαλάσι, κ.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Royal tomb (niche).	<i>Ibid.</i> , p. 141, Fig. 122.		Vases from Nauplia. <i>Ibid.</i> , Pl. XV.
"Squatter" houses.	Mackenzie, <i>J. H. S.</i> XXIII, p. 197.		Vases from Mycenae. <i>Ibid.</i> , Pls. XXIII-XXIII.
Phaistos, late deposits.	Pernier, <i>Mon. Ant.</i> XII, col. 117, and Pl. VIII, 4.		Vases and gold, glass, paste, and ivory ornaments, from Spata. XIX.
Necropolis.	Pernier, <i>Mon. Ant.</i> XIV, cols. 557-577, Figs. 42-46, Pls. XXXVII and XXXVIII.		Vase-fragments from Petrie, Tel-el-Amarna, Egypt (XVIIIth and XIXth dyns.).
Lilliana tomb.	<i>Ibid.</i> , col. 637, Fig. 107 and Figs. 110-112.		Vase-fragments from Argive Heraeum. of Pls. III-LV.
Ligortino tomb.	<i>Ibid.</i> , col. 657, Fig. 120.		
Palaikastro (block γ)	Dawkins, <i>B. S. A.</i> IX, p. 315, Figs. 13-19.		
(block π)	Dawkins, <i>B. S. A.</i> X, p. 212 ff., Fig. 5.		
Anoia Messarifica.	Orni, <i>Mon. Ant.</i> I, cols. 205-208, Pl. I, 1 and 3.		
Milatos.	<i>Ibid.</i> , cols. 208-9, Pl. II, 1 and 2.		
Pendanioti.	<i>Ibid.</i> , cols. 209-11, Pl. I, 2.		
Artsa.	Xanthoudides, 'Εφ. Ἀρχ. 1904, col. 18, Fig. 2.		
Moulana.	<i>Ibid.</i> , col. 27, Fig. 6, and Pls. I and III.		
Siteia Harbor.	<i>Ibid.</i> , col. 54, Fig. 16.		
Diectem Cave.‡	Hogarth, <i>B. S. A.</i> VI, p. 103, Figs. 31 and 32.		

* Mr. Evans regards this deposit as transitional between Early Minoan III and Middle Minoan. See *Essai de classification*, p. 7.

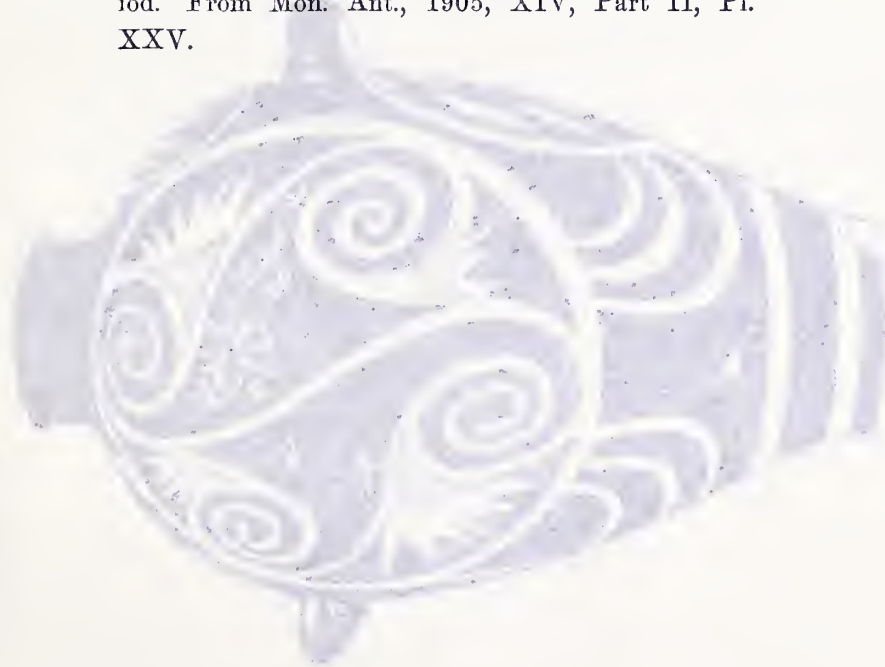
† Fig. 4, 3. Mr. Dawkins now classes with Middle Minoan II vases. See *B. S. A.* 1903-4, X, p. 193.

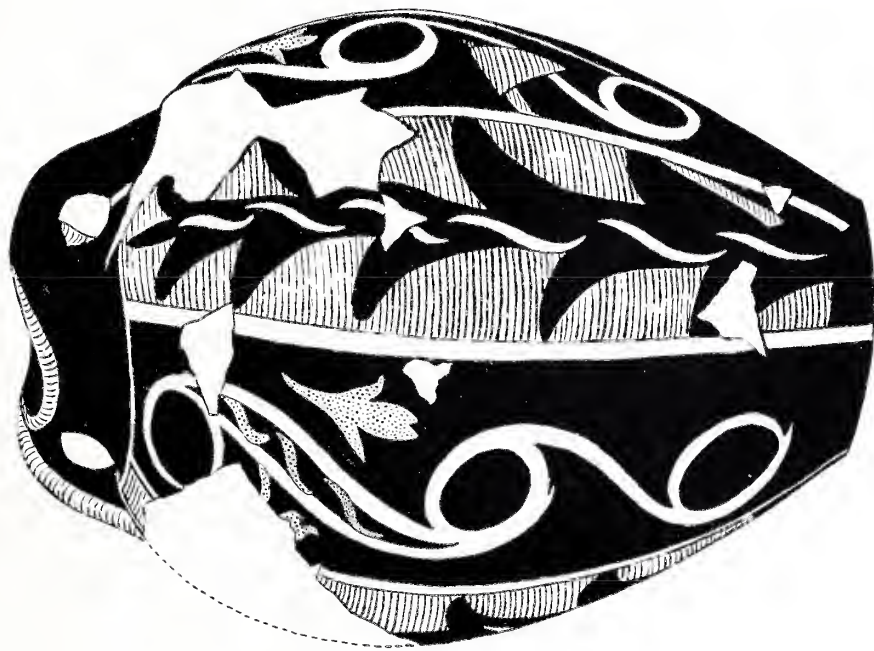
‡ In another cave on the east coast of the Dictynnean peninsula in western Crete, Late Minoan III sherds were found in abundance by Mr. J. L. Myres, and later (in 1905) by Mr. T. L. Shear and myself.



PLATE I.

Two decorated jars of the Middle Minoan II period. From *Mon. Ant.*, 1905, XIV, Part II, Pl. XXV.





TWO DECORATED JARS OF THE MIDDLE MINOAN II PERIOD
From *Mon. Ant.* 1905, XIV, Part 2, Pl. XXXV.



PLATE II.

Decorated Vase of the Late Minoan II period.
From the British School Annual, 1902-3, IX, p. 139,
Fig. 88.



Illustration of the vase, showing the base and the decorative band.

PLATE II.

Decorated Vase of the Late Minoan II period.
From the British School Annual 1907-8, LX, p. 138.
fig. 88.



DECORATED VASE, LATE MINOAN II PERIOD.

Reproduced from the *British School Annual*, 1902-3, IX, p. 139, Fig. 88.

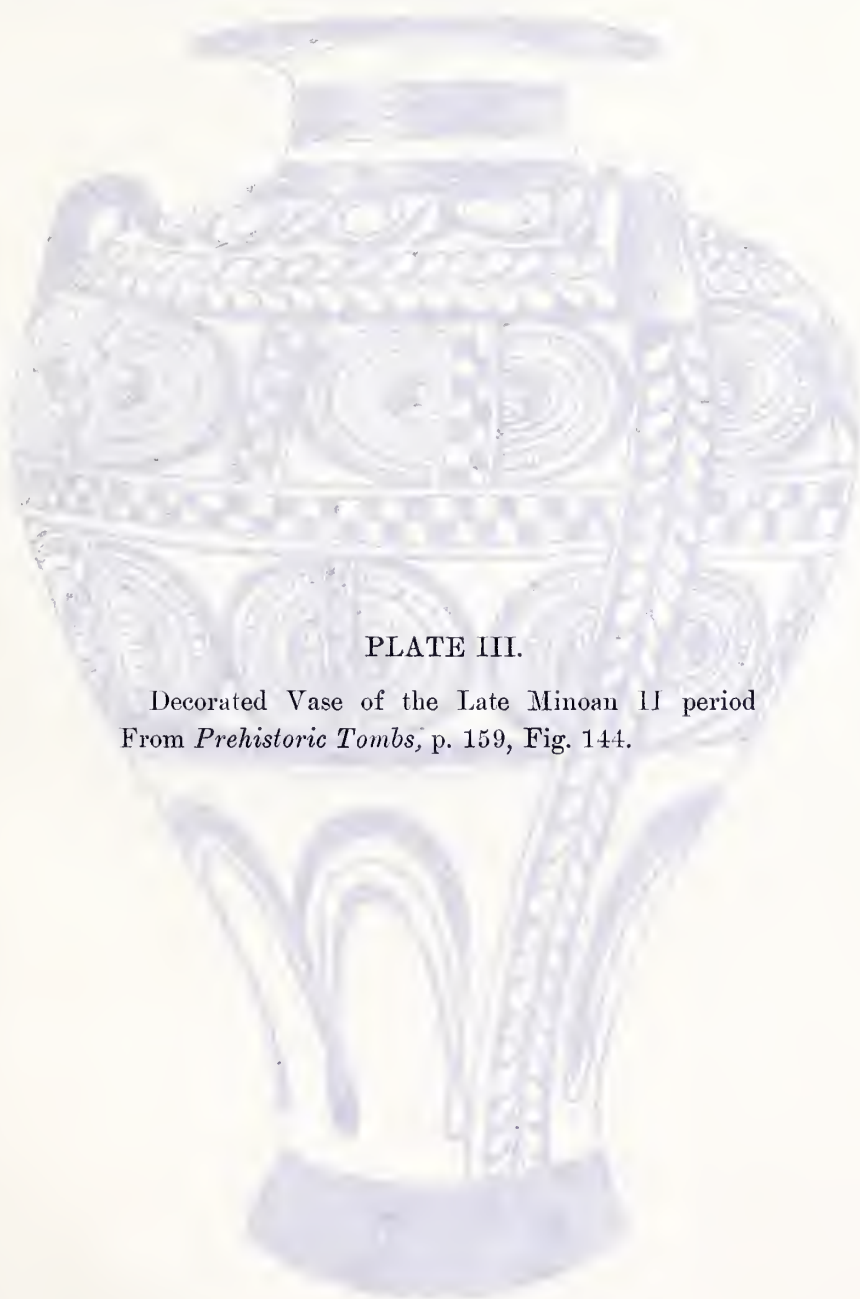


PLATE III.

Decorated Vase of the Late Minoan II period
From *Prehistoric Tombs*, p. 159, Fig. 144.

PLATE III

Illustrated 725 at the top of the 11th page of the
from Prehistoric Times, p. 106, fig. 14



DECORATED VASE OF LATE MINOAN II PERIOD.

From *Prehistoric Tombs*, p. 159, Fig. 144.

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